2016 OPERATING REVENUE SUMMARY

1. The purpose of this evidence is to summarize the revenue forecast for the 2015 Board Approved, 2016 Board Approved Placeholder, and the 2016 Updated Forecast.

2. A summary of the revenue for 2015 Board Approved, 2016 Board Approved Placeholder, and 2016 Updated Forecast is provided in Table 1 below.

Table 1
COMPARISON OF UTILITY OPERATING REVENUE

Item No.		Col. 1 EB2014-0276 2015 Board Approved ($Millions)	Col. 2 EB-2012-0459 2016 Board Approved (placeholder) ($Millions)	Col. 3 2016 Updated Forecast ($Millions)
1	Gas Sales	2,458.9	2,464.5	2,550.0
2	Transportation of Gas	265.3	217.1	259.3
3	Transmission, Compression and Storage (incl. Rate 332)	4.0	1.8	1.9
4	Other Revenue	42.7	42.7	42.7
5	Other Income	0.1	0.1	0.1
6	Total Operating Revenue	2,771.0	2,726.2	2,854.0

3. The 2016 Updated Revenue Forecast is $2,854.0 million as shown at Exhibit C3, Tab 1, Schedule 1. This represents a $127.8 million increase over the 2016 Placeholder of $2,726.2 million.

4. The variance is explained by the revenue categories in the following paragraphs.

Witnesses: S. Purba
M. Suarez

Gas Sales and Transportation of Gas Revenues

5. Gas sales and transportation of gas revenues for the 2016 Board Approved Placeholder used the Board-approved commodity rates in place in 2013 and the 2016 gas volume budget. Specifically, the 2016 Board Approved Placeholder was developed on the basis of EB-2013-0045 commodity rates set out in the April 2013 QRAM and the 2013 final rates that can be found in the Board Decision and Order for EB-2011-0354. The 2016 Updated Forecast Gas Sales and transportation of Gas Revenues are based on the EB-2015-0163 commodity rates set out in the July 2015 QRAM and the 2015 Final Rate Order in EB-2014-0276. Those updated commodity rates are applied to the updated gas volume forecast set out within this rate adjustment application.

6. The evidence in support of the Company's 2016 updated gas volume forecast is set out within Exhibit C1, Tab 2, Schedule 1 and the C2 series of exhibits, with further numeric details in the C3 series of exhibits.

7. The increase in gas sales and transportation of gas revenues of $127.7 million from the 2016 Board Approved Placeholder to the 2016 Updated Forecast is primarily due to higher commodity rates using July 2015 QRAM commodity rates and higher volumes.

8. A breakdown of the 2016 Updated Forecast and 2016 Board Approved Placeholder gas sales and transportation of gas revenues by rate class is provided within the C3 series of exhibits.

Witnesses: S. Purba
M. Suarez

Transmission, Compression and Storage

9. Transmission, Compression and Storage revenues for the 2016 Updated Forecast are also developed on the basis of Final Rate Order in EB-2014-0276, resulting in a $0.1 million increase as compared to the 2016 Board Approved Placeholder.

Other Operating Revenues

10. Within the Board's EB-2012-0459 Decision with Reasons, Enbridge's Other Operating Revenues and Other Income were set at the level of $42.7 million and $0.1 million for each year from 2014 to 2018. Accordingly, there is no change in these amounts within the 2016 Updated Forecast.

GAS VOLUME BUDGET

1. The purpose of this evidence is to present the 2016 forecast of volumes to reflect updated forecast assumptions as part of the annual adjustments for 2016 Rates Adjustment proceeding. The evidence describes the forecasting methodology and the key assumptions used to develop the volumes forecast for General Service customers and Contract Market customers. The 2016 volume forecasts have been prepared based on the approved methodology applied in prior rate case filings, including the probability-weighted approach for potential new contract customers.

2. A summary of the 2016 volumes forecast is provided below. Further rate class detail and explanation for all gas volumes and related items are provided at Exhibit C3, Tab 2, Schedule 3.

Table 1
Summary of Gas Sales and Transportation Volumes
(Volumes in 10^6m^3)

	2014 Actual	2015 Board Approved Budget	2016 Budget
General Service Volumes	10,703.4	9,371.4	9,666.8
Contract Market Volumes	1,953.1	1,916.2	1,899.8
Total Volumes, Gas Sales and Transportation	12,656.5	11,287.6	11,566.6

3. Total customers are reported as the annual average of monthly customer numbers. This annual average customer methodology has been used to develop Board Approved annual average customer numbers for more than ten years. Table 2

illustrates the annual average number of general service and contract market customers for the forecast years. The methodology used to develop the customer budget can be found at Appendix B of this evidence.

Table 2
Summary of Total Average Number of Customers

	2014 Actual	2015 Board Approved Budget	2016 Budget
General Service Customers	2,063,443	2,098,571	2,130,352
Contract Market Customers	394	381	376
Total Number of Customers (Average)	2,063,837	2,098,952	2,130,728

General Service Demand Forecast Methodology

4. The General Service volume forecast is derived using the General Service customer budget and the normalized average use per customer forecast generated from the average use forecasting models.

5. The average use forecasting models are regression models developed by the Company which are described in detail in the evidence at Exhibit C2, Tab 1, Schedule 3. The forecast incorporates economic assumptions from the Economic Outlook, Q1 2015. Please refer to Exhibit C2, Tab 1, Schedule 1 for the economic assumptions.

6. The major variables in Rate 1 and Rate 6 models are heating degree days, vintage (Rate 1 only), employment, Ontario real gross domestic product, vacancy rates (Rate 6 only), real energy prices, and time trend. Annual econometric models are employed to model and quantify the impact of different variables on average use

per customer. The vintage variable is constructed to reflect the impact that new homes, associated with more energy efficient gas equipment and enhanced building codes, have on average use. The time trend, including the dynamic variable in the regression model, captures the historical actual average trend of the sectorial average use, conservation initiatives originated by customers themselves or promoted by government programs, stock turnover, and other historical impact not reflected in the mentioned driver variables.

7. The forecast of average use per customer is modeled based upon the analysis of weather-normalized volumes data. Normalization is the process that allows the Company to compare average use per customer by removing the influence of the weather. The Company's weather normalization methodology has been approved by the Board and utilized for more than ten years.

8. Consistent with previous rate cases, the Company continues to report the results that the models would generate using the actual data and driver variable information to allow parties to compare the results to the prior year's forecast. The Rate 1 average in-sample forecast error of regression models is 0.8% and the Rate 6 average in-sample absolute forecast error is 1.2% on average during 2005 to 2014[1]. Overall, the regression model continues to be an excellent predictor of General Service average use.

Contract Market Volume Forecast Methodology

9. The Contract Market volume budget was generated using the established grass roots approach as well as the probability-weighted forecast approach for potential

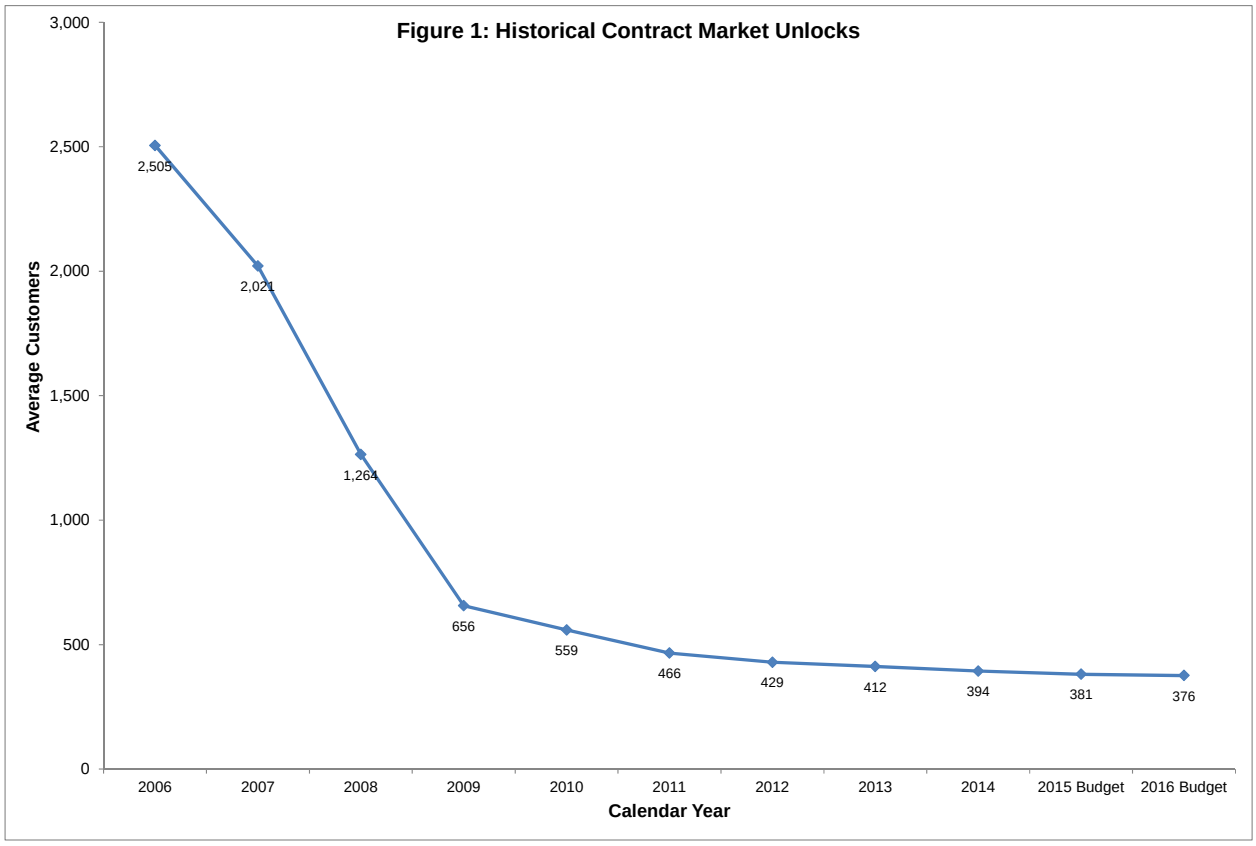
[1] Please see Exhibit C2 Tab 1 Schedule 3, Tables 2 and 3 for forecast errors. Average absolute variance is calculated for Rate 1 and Rate 6 based on values in column 8 of both tables, respectively.

new large-volume contract customers first introduced and applied in EB-2014-0276 (Exhibit C1, Tab 2, Schedule 1, p. 4).

10. At any given point in time, Enbridge is in conversation with new and existing customers to evaluate their gas service requirements. The traditional grass roots approach generates volume forecasts on an individual customer basis by Account Executives ("AEs") in consultation with customers during the budget process. Specifically, the AEs review the contract attributes for each contract in order to ensure that the customer can meet the contracted rate class minimum volume and load factor requirements. Current economic and industry conditions and budgeted degree days are factored into the budget determination. The same approach has been retained to forecast volumes for existing customers.

11. For the purpose of establishing a probability-weighted methodology for potential customers, existing practices were leveraged. Over the years, as the AEs in the Key Accounts group have worked with numerous potential customers, they collectively devised a system of capturing the stages at which new customers progress from the initial evaluation stage to ultimately signing a Large Volume Distribution Contract. Five stages or buckets are used to funnel projects from initial discussions through to energizing the pipeline. The probabilities or weights for each stage were assigned through conversations with the AEs who drew on actual experiences over the years, and were applied to the volumes that were forecast to be effective in the forecast year.

12. Based on the grass-root approach and the approved probability- weighted approach, Figure 1 below shows the projection for 2016 unlocks, in comparison to 2015 Board Approved unlocks as well the historical actual Contract Market unlocks between 2006 and 2014.



13. As the previous graph illustrates, approximately 2,000 Contract Market customers migrated to General Service over the period 2006 through 2010. This customer migration drove up average use per customer in Rate 6 over that period. With rates migration stabilizing in recent years, the number of projected Contract Market customers follows a relatively flat trend.

14. As a consequence of the implementation of the Natural Gas Electricity Interface Review ("NGEIR") in 2007, the Company experienced customer migration from

bundled rate classes that bill distribution volumes volumetrically, reported in Table 1, to unbundled rate classes (e.g., Rate 125, Rate 300 Firm) that do not bill distribution volumes volumetrically. Unbundled customers incur monthly contract demand volumes and generate fixed contract demand revenues. Table 3 below presents a summary of these contract demand volumes.

Table 3
Summary of Unbundled Customers Contract Demand Volumes
(Volumes in 10^6m^3)

	2014 Actual	2015 Board Approved Budget	2016 Budget
Total Contract Demand Volumes	119.4	119.4	119.4

2016 Volume Budget

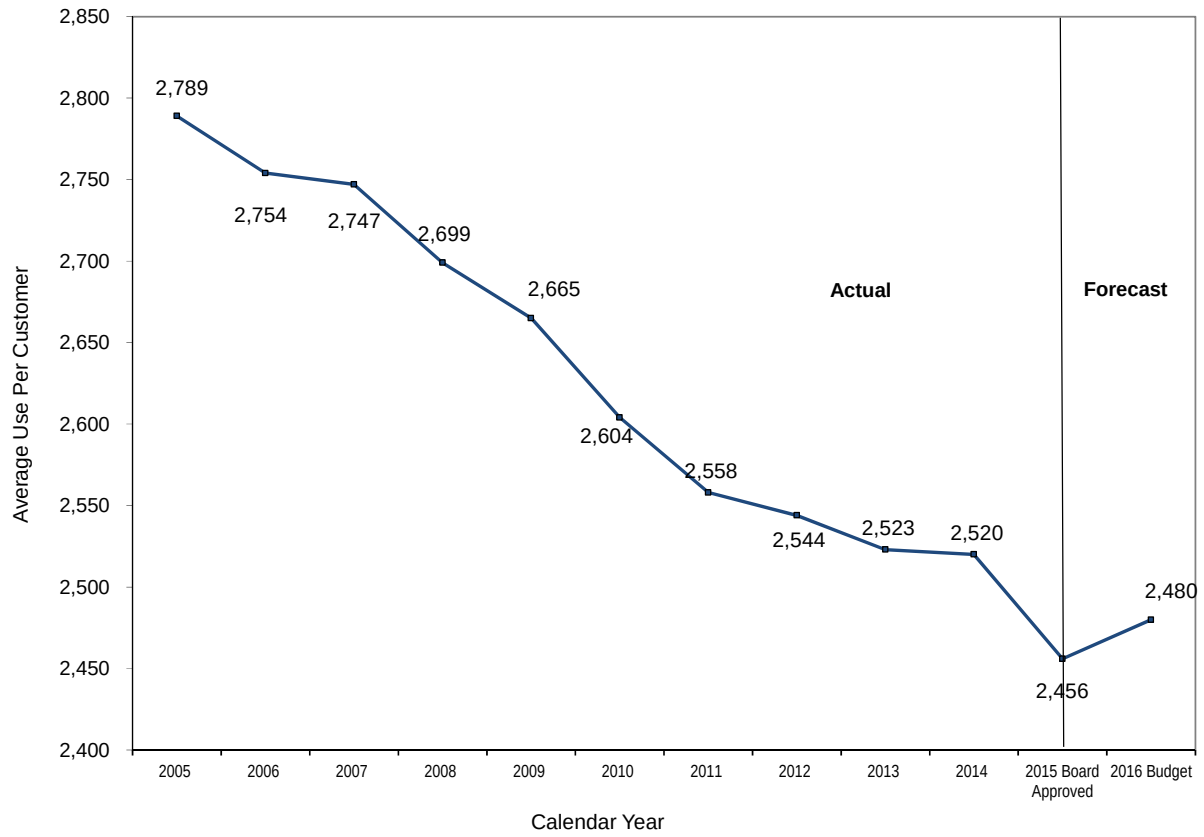
15. The 2016 Budget volumes reflect the meter reading heating degree days forecast using the Board approved degree day methodology in the EB-2012-0459 Decision. The 2016 Budget is comprised of General Service volumes of 9,666.8 10^6m^3 and Contract Market volumes of 1,899.8 10^6m^3. A detailed breakdown of gas volumes by rate class is provided at Exhibit C3, Tab 2, Schedule 1. Monthly meter reading heating degree days are determined by combining the Gas Supply heating degree day forecasts with the billing schedules. Please refer to Exhibit C2, Tab 1, Schedule 2 for a detailed explanation of the derivation of the Company's degree days forecast.

16. Table 1 in Appendix A of this evidence presents the historical normalized actual and Board approved General Service average uses. Table 2 and Table 3 of

Appendix A present historical average uses normalized to the 2016 forecast degree day to eliminate the weather impact and facilitate year-over-year comparison.

17. Residential average use per customer has declined steadily over the period of 2005 through 2014[2], at an average rate of 1.1% per year. Figure 2 depicts this trend.

Figure 2: Residential Normalized Average Use (m^3)

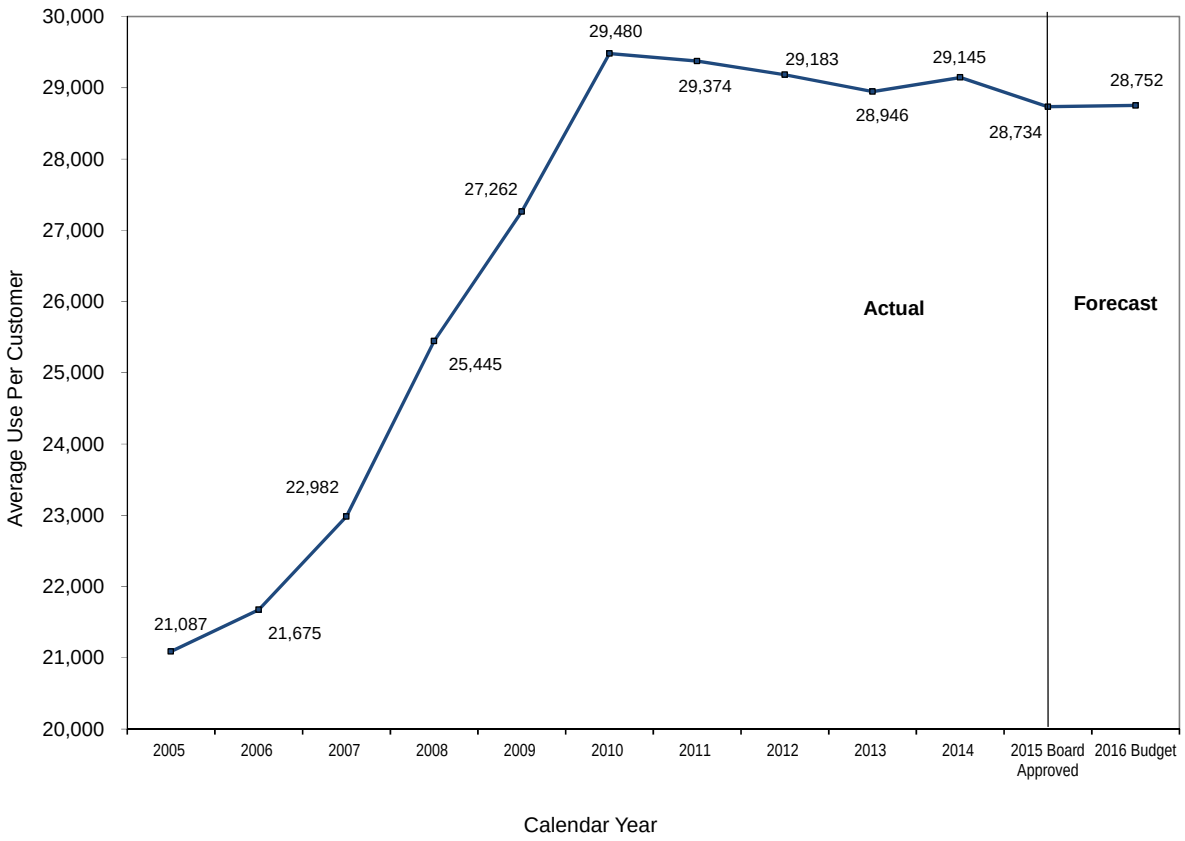


[2] Please see Exhibit C1, Tab 2 ,Schedule 1, Appendix A, Table 2 for annual percentage declines.

18. Although the forecasts for 2015 and 2016 seem to run counter to the declining trend, the aberration is driven by a higher average use in 2014 than otherwise would have been predicted. The 2015 forecast was informed by the latest available actual average use from 2013, degree day expectations, and economic conditions at the time the application was developed. The 2015 forecast of average use was in line with the declining trend. For the current 2016 forecast, the latest actual information which includes 2014 is used. As already noted, 2014 average use was higher than expected**,** contributing to a lift in the forecast for 2016 relative to the 2015 budget.

19. Figure 3 on the following page shows the normalized actual average use per customer for Rate 6 from 2005 to 2014 as well as the projection for 2015 to 2016 as filed at Table 2 and Table 3 of Appendix A of this evidence.

Figure 3: Rate 6 Normalized Average Use (m^3)



20. As noted earlier, there is a clear upward trend in usage per customer from 2006 to 2010 resulting from significant customer migration from Contract Market to General Service. Rate design changes to include contract demand charges for Rate 100 and Rate 145, which became effective April, 2007, prompted much of this rate migration. Approximately 2,000 Contract Market customers migrated to General Service over the period from 2006 through 2010.

21. Over the past few years, rate migration has stabilized and Rate 6 average use per customer has reflected a relatively flat or downward trend. Like Rate 1 average

use, Rate 6 average use was similarly higher than projected. Incorporating 2014 data into the sample continues to support a declining trend, but with a flatter slope.

Comparison of Volumes: 2016 Budget versus 2015 Board Approved Budget

22. The 2016 Budget volumes reflect the heating degree days forecast for the Central Region of 3,617, an increase of 81 degree days compared to the 2015 Board Approved Budget level of 3,536.

23. As shown at Exhibit C3, Tab 2, Schedule 3, page 1, the 2016 Budget volumes of 11 566.6 10^6m^3 forecast to be 279.0 10^6m^3, or 2.5%, above the 2015 Board Approved Budget of 11 287.6 10^6m^3. The increase is primarily attributable to customer growth, higher degree days forecast, and higher average use for General Service customers and lower volumes in Contract Market. On a weather-normalized basis, the 2016 Budget volumes are forecast to be 138.3 10^6m^3 higher than the 2015 Budget as shown at Exhibit C3, Tab 2, Schedule 3, page 2. The volume increase on a normalized basis is made up of an increase in General Service volumes of 157.7 10^6m^3, partially offset by a decrease in Contract Market of 19.4 10^6m^3. Further rate class detail and explanations are provided at Exhibit C3, Tab 2, Schedule 3.

24. The same schedule also shows that the increase in the General Service volumes of 157.7 10^6m^3 on a weather-normalized basis is primarily due to net customer growth of 96.6 10^6m^3 , net customer migration from Contract Market of 2.8 10^6m^3 and higher average use per customer in Rate 1 and Rate 6 totaling 58.3 10^6m^3.

25. The 2016 Contract volume budget is expected to see a decrease of 19.4 10^6m^3 compared to the 2015 Budget on a weather-normalized basis. The variance is

mainly due to net customer migration of 2.8 10^6m^3 to General Service and lower usage of 20.8 10^6m^3, partially offset by net customer growth of 4.2 10^6m^3.

Evaluation of Forecast Accuracy – Historical Normalized Actual vs. Board Approved Budget

26. Historical Board Approved volumes were developed and approved based on fiscal year information. For the periods prior to 2006, September 30 was the end of the fiscal year; whereas for the years 2006 and beyond, the fiscal year is the calendar year.

27. The General Service Average Use Table 1 at Appendix A of this evidence illustrates a 10-Year history of Normalized Actual vs. Board Approved volumes. The key factor used to evaluate the accuracy of the General Service volumetric demand is the variance of normalized residential average use per customer. The average normalized percentage variances between 2005 and 2014 are 0.8% for Rate 1 and 1.2% for Rate 6. Hence, the General Service average use forecasting methodology continues to be a reasonable predictor for General Service average use.

28. For the Contract Market, customer migration has had a significant impact between 2006 and 2010. In addition, the Contract Market volumes are primarily driven by economic factors. Table 4 at Appendix A (p. 5) of this evidence illustrates the 10-Year history of Normalized Actual vs. Board Approved volumes for Contract Market customers to evaluate accuracy of forecast volumes.

Weather Normalization Methodology

29. The Company's weather normalization methodology has been approved by the Board and utilized for over fifteen years. Consistent with previous rate cases, this section explains the Board approved normalization methodology of eliminating the impact of weather when reporting actual consumption for General Service rate classes.

30. General Service normalization is carried out taking customers at a group level. The Company's General Service customers are grouped together into homogenous classes of gas usage within the three delivery areas (and six operating regions) of the Company's franchise area. Only the heat sensitive portion of consumption is normalized for heat sensitive or balance point degree days.

31. First, the total load per customer of a customer group is calculated by dividing the group's consumption by the total customers within the group. Base-load, which represents non-weather sensitive load such as water heating, is then calculated per customer using an average of the total load of non-weather sensitive summer months (July and August). Heat-load per customer is then calculated as the difference between total load per customer and base load per customer. This heat-load represents the heat-sensitive portion of consumption that is adjusted for normalized consumption. Actual Use per degree day is derived by dividing the heat-load per customer by Actual Heating Degree Days. The Actual Use per Degree Day is then multiplied by the Budget Heating Degree Days to normalize each year to the same weather impact, thereby removing any variability. Consequently, total normalized average use per customer is defined as an

aggregate sum of base-load use per customer and normalized heat-load per customer.

32. For Contract Market customers, a similar process is followed to determine the actual base-load for each contract. Actual heat-load is obtained by removing the base-load and the process load from the total consumption, which is then adjusted to reflect normal weather. The actual volumes are also adjusted, where necessary, to the budgeted level of curtailment.

GENERAL SERVICE AVERAGE USES
HISTORICAL NORMALIZED ACTUAL AND BOARD APPROVED
FISCAL AND CALENDAR YEARS

1. To facilitate the comparison of average uses between Actual and Board Approved values, as well as observe year-over-year trends, it is essential to normalize the weather impact by removing the variation that is caused by weather. The series of tables in this appendix provides historical comparisons of average use volumes for General Service and Contract Market classes.

2. Tables 1 to 3 show normalized General Service average uses, and Table 4 shows normalized contract volumes. Prior to 2006, the historical Board Approved degree days and average uses were developed based on the Company's fiscal-year end of September 30th. From 2006 onwards, the fiscal year is the calendar year.

3. Actual average uses in Table 1 on the following page have been normalized to the corresponding Board Approved degree days for the respective year. In contrast, the normalized average uses in Tables 2 and 3 are presented on a calendar-year basis where each year has been normalized to the 2016 forecast degree days. This alternative presentation is used to consistently eliminate to the same weather impact.

4. Table 4 contract volumes have been normalized to the corresponding Board Approved degree days for each of the respective years.

TABLE 1
GENERAL SERVICE AVERAGE USE

	Test Year	Rate Classes	Col. 1 Actual Normalized Average Use	Col. 2 Board Approved Normalized Average Use	Col. 3 Variance Normalized Average Use	Col. 4 %Variance Normalized Average Use
FISCAL YEAR	2003	Rate 1	2,877	2,892	(15)	-0.5%
		Rate 6	21,593	21,685	(92)	-0.4%
		Total General Service	4,541	4,579	(38)	-0.8%
	2004*	Rate 1	2,843	2,857	(14)	-0.5%
		Rate 6	21,472	21,612	(140)	-0.6%
		Total General Service	4,461	4,502	(41)	-0.9%
	2005	Rate 1	2,890	2,953	(63)	-2.1%
		Rate 6	22,241	22,507	(266)	-1.2%
		Total General Service	4,547	4,646	(99)	-2.1%
CALENDAR YEAR	2006	Rate 1	2,796	2,850	(54)	-1.9%
		Rate 6	22,272	21,999	273	1.2%
		Total General Service	4,444	4,438	6	0.1%
	2007	Rate 1	2,726	2,687	39	1.5%
		Rate 6	22,783	21,010	1,773	8.4%
		Total General Service	4,412	4,200	212	5.0%
	2008	Rate 1	2,636	2,647	(11)	-0.4%
		Rate 6	24,869	24,204	665	2.7%
		Total General Service	4,493	4,449	44	1.0%
	2009	Rate 1	2,604	2,637	(33)	-1.3%
		Rate 6	27,281	28,165	(884)	-3.1%
		Total General Service	4,659	4,770	(111)	-2.3%
	2010	Rate 1	2,579	2,622	(43)	-1.6%
		Rate 6	29,106	27,949	1,157	4.1%
		Total General Service	4,403	4,705	(302)	-6.4%
	2011	Rate 1	2,594	2,643	(49)	-1.8%
		Rate 6	29,471	28,029	1,442	5.1%
		Total General Service	4,764	4,726	38	0.8%
	2012	Rate 1	2,529	2,510	18	0.7%
		Rate 6	28,941	30,122	(1,182)	-3.9%
		Total General Service	4,642	4,715	(73)	-1.5%
	2013	Rate 1	2,547	2,568	(22)	-0.8%
		Rate 6	29,878	29,878	(0)	0.0%
		Total General Service	4,665	4,719	(54)	-1.1%
	2014	Rate 1	2,475	2,433	41	1.7%
		Rate 6	28,634	28,383	251	0.9%
		Total General Service	4,665	4,719	(54)	-1.1%

* 2004 Bridge Year Estimate from RP-2003-0203 was reported at column 2 because Board Approved numbers are not available since there was no 2004 Board Approved Volumes Budget due to the nature of the 2004 Rate Application. Please see RP-2003-0048, Exhibit A, Tab 3, Schedule 1 for the rationale for implementing this new approach.

Witness: M. Suarez

TABLE 2
GENERAL SERVICE
SYSTEM-WIDE TOTAL NORMALIZED AVERAGE USE*

		Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 Board Approved Budget	2016 Forecast
Residential		2,789	2,754	2,747	2,699	2,665	2,604	2,558	2,544	2,523	2,520	2,456	2,480
	Change		(35)	(7)	(48)	(34)	(61)	(46)	(14)	(21)	(3)	(64)	24
	% Change		-1.25%	-0.25%	-1.75%	-1.26%	-2.29%	-1.77%	-0.55%	-0.83%	-0.12%	-2.54%	0.98%
Apartment		80,257	87,996	102,425	126,643	144,469	164,406	152,110	148,701	148,760	151,702	151,334	145,181
	Change		7,739	14,429	24,218	17,826	19,937	(12,296)	(3,409)	59	2,942	(368)	(6,153)
	% Change		9.64%	16.40%	23.64%	14.08%	13.80%	-7.48%	-2.24%	0.04%	1.98%	-0.24%	-4.07%
Commercial		17,006	17,173	17,636	18,352	18,987	19,681	19,783	19,899	19,671	19,712	19,422	19,826
	Change		167	463	716	635	694	102	116	(228)	41	(290)	404
	% Change		0.98%	2.70%	4.06%	3.46%	3.66%	0.52%	0.59%	-1.15%	0.21%	-1.47%	2.08%
Industrial		53,036	56,091	60,898	75,366	89,108	107,651	109,043	106,525	107,843	110,829	109,356	109,381
	Change		3,055	4,807	14,468	13,742	18,543	1,392	(2,518)	1,318	2,986	(1,473)	25
	% Change		5.76%	8.57%	23.76%	18.23%	20.81%	1.29%	-2.31%	1.24%	2.77%	-1.33%	0.02%

* All historical average uses are on a calendar-year basis and have been normalized to the 2016 Budget degree days.

TABLE 3
GENERAL SERVICE
SYSTEM-WIDE TOTAL NORMALIZED AVERAGE USE*

		Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 Board Approved Budget	2016 Forecast
Rate 1		2,789	2,754	2,747	2,699	2,665	2,604	2,558	2,544	2,523	2,520	2,456	2,480
	Change		(35)	(7)	(48)	(34)	(61)	(46)	(14)	(21)	(3)	(64)	24
	% Change		-1.25%	-0.25%	-1.75%	-1.26%	-2.29%	-1.77%	-0.55%	-0.83%	-0.12%	-2.54%	0.98%
Rate 6		21,087	21,675	22,982	25,445	27,262	29,480	29,374	29,183	28,946	29,145	28,734	28,752
	Change		588	1,307	2,463	1,817	2,218	(106)	(191)	(237)	199	(411)	18
	% Change		2.79%	6.03%	10.72%	7.14%	8.14%	-0.36%	-0.65%	-0.81%	0.69%	-1.41%	0.06%

* All historical average uses are on a calendar-year basis and have been normalized to the 2016 Budget degree days.

TABLE 4

CONTRACT CUSTOMERS NORMALIZED VOLUME

	Test Year	Col. 1 Actual Normalized Consumption (10^6m^3)	Col. 2 Board Approved Normalized Consumption (10^6m^3)	Col. 3 Variance Normalized Consumption (1-2)	Col. 4 %Variance Normalized Consumption (3/2)*100
FISCAL YEAR	2003	4,380.7	4,400.2	(19.5)	-0.4%
	2004*	4,275.7	4,309.7	(34.0)	-0.8%
	2005	4,199.2	4,334.2	(135.0)	-3.1%
CALENDAR YEAR	2006	4,119.1	4,387.9	(268.8)	-6.1%
	2007	3,739.8	4,134.3	(394.5)	-9.5%
	2008	3,099.6	3,355.2	(255.6)	-7.6%
	2009	2,191.4	2,316.6	(125.2)	-5.4%
	2010	2,191.5	2,008.6	182.9	9.1%
	2011	2,081.8	2,022.9	58.9	2.9%
	2012	2,072.6	1,943.4	129.2	6.6%
	2013	2,022.7	1,945.5	77.2	4.0%
	2014	1,923.6	1,967.0	(43.4)	-2.2%

* 2004 Bridge Year Estimate from RP-2003-0203 was reported at column 2 because Board Approved numbers are not available since there was no 2004 Board Approved Volumes Budget due to the nature of the 2004 Rate Application. Please see RP-2003-0048, Exhibit A, Tab 3, Schedule 1 for the rationale for implementing this new approach.

AVERAGE NUMBER OF CUSTOMERS

1. The purpose of this exhibit is to present the forecast of the annual average customers underpinning the 2016 volume budget. The annual average customer methodology used by Enbridge has been applied to calculate Board Approved annual average number of customers for more than ten years. Although the methodology remains intact, some enhancements have been introduced in the 2016 budget to enhance objectivity. These enhancements will be outlined in the evidence that follows.

2. The 2016 Customer Budget of 2,130,728 is forecast to be 31,776, or 1.5%, above the 2015 Board Approved Budget of 2,098,952. The increase in customers is primarily attributable to the customer additions in the 2016 Budget and the higher opening balance of customers. Total customer additions are forecast at 35,592 for 2016. The customer additions forecast underpins the new customer volumes of 101.8 $10^6 m^3$ added between 2016 Budget and 2015 Budget as stated at Exhibit C3, Tab 2, Schedule 3.

Underlying Forecast Methodology

3. Consistent with previous rate proceedings, each year's customer numbers are reported on an annual average of monthly customer numbers. Every month customer numbers are measured by number of active meters (or unlock meters)[1]. As a result, each month's customer number is an aggregate sum of the total active meters for that particular month. Specifically, each year's annual average is calculated as follows:

[1] Unlock meter is defined as customer whose gas meter is unlocked, allowing gas to flow through the meter to a premise.

Annual Average_Customers = (1/12)(January_customers + February_customers + March_customers + April_customers + May_customers + June_customers + July_customers + August_customers + September_customers + October_customers + November_customers + December_customers)*

4. Consistent with the contract demand forecast methodology discussed in the Gas Volume Budget evidence, contract customer counts in the contract market are generated through the grass root approach between account executives and customers (including the probability-weighted methodology for potential new customers). The formula for forecasting the total number of contract market customers is as follows:

forecast contract market customers = year end customers
+ forecast new customer additions
+ forecast replacement customer additions
- forecast lost customers
+ forecast transfer gains (i.e., customer migration from general service Rate 6 to contract market rate class)
– forecast transfer losses (i.e., customer migration from contract market rate class to general service Rate 6)

5. In the most simplistic sense, general service customers are forecast as follows:

General Service customers = year-end customers
+ forecast new customers
– forecast locked customers
+/- forecast gains or losses.

However, due to lags inherent in moving a customer addition to an unlocked customer, as well as variability in the timing of locked customers, lags impact the final number of unlocked customers. The use of regression analysis was introduced for 2016 to enhance the objectivity of the forecast by leveraging model

results using actual monthly data to predict the lags and the pattern of locked meters. Transfer gains or losses between contract rate class and general service Rate 6 continue to be obtained from account executives, and layered onto general service Rate 6 customers. The formula for forecasting the total number of general service customers is enhanced as follows:

forecast general service customers = year-end customers
+ forecast customer additions (regression for Rate 1 and Rate 6 commercial)
+ forecast monthly change in lock customers (regression for Rate 1 and Rate 6 commercial)
+ forecast transfer gains (i.e. customer migration from contract market rate class to general service Rate 6)
- forecast transfer losses (i.e. customer migration from general service Rate 6 to contract market rate class)

6. Lock meters are defined as customers whose gas meters are locked and no gas is flowing through the meter to a premise. These can result from vacant premises (e.g., new construction, move-in/move out, bankruptcies, etc.), customer switching off gas to an alternate energy source, payment or credit reasons and seasonal usage. Unfavorable economic conditions, e.g., vacancy or bankruptcy, may lead to an increase in locked meters and this factor has been incorporated into the models. Table 1 below presents the historical annual actual lock customer data.

Table 1 - Historical Annual Average Locks Customers

Calendar Year	Lock Customers
2011	41,170
2012	43,575
2013	45,781
2014	46,149

7. There is always a time lag between when the service line is installed (that underpins capital expenditures and customer additions) and the first flow of gas which occurs when the customer moves into the premise and calls to have their meter unlocked by field staff, gas service and their account (that underpins billed revenues and volumes) is activated. This time lag is incorporated into the results from the regression equations used to forecast customer numbers.

8. Similar to lock customers, this time lag is challenging to predict. The Company has enhanced this process by modeling historical lags as part of its forecast of unlocks. Models were used for Rate 1 and Rate 6 commercial forecasts. However, for the apartment and industrial sectors the latest available historical actual data (2014) is used.

Evaluation of Forecast Accuracy – Historical Actual vs. Board Approved Budget

9. Historical Board Approved customer numbers are set out on Table 3. The information for periods prior to 2006 reflect a fiscal year-end of September 30th, whereas the years starting from 2006 are calendar years.

10. Table 3 on the following page shows Historical Actual vs. Board Approved customer numbers. The average percentage error variance over the history shown is approximately 0.1%.

TABLE 3 - GENERAL SERVICE AND CONTRACT MARKET CUSTOMERS

	Test Year	Col. 1 Actual Customers	Col. 2 Board Approved Customers	Col. 3 Variance Customers (1-2)	Col. 4 %Variance Customers (3/2)*100
FISCAL YEAR	1996	1,263,290	1,262,815	475	0.0%
	1997	1,312,434	1,309,752	2,682	0.2%
	1998	1,364,350	1,353,178	11,172	0.8%
	1999	1,414,788	1,417,832	(3,044)	-0.2%
	2000	1,464,738	1,468,915	(4,177)	-0.3%
	2001	1,519,039	1,514,710	4,329	0.3%
	2002	1,566,710	1,565,017	1,693	0.1%
	2003	1,622,016	1,615,037	6,979	0.4%
	2004*	1,676,380	1,672,586	3,794	0.2%
	2005	1,724,716	1,718,766	5,950	0.3%
CALENDAR YEAR	2006	1,782,813	1,792,615	(9,802)	-0.5%
	2007	1,824,789	1,823,258	1,531	0.1%
	2008	1,865,020	1,864,047	973	0.1%
	2009	1,887,605	1,906,437	(18,832)	-1.0%
	2010	1,926,294	1,931,528	(5,234)	-0.3%
	2011	1,960,378	1,965,538	(5,160)	-0.3%
	2012	1,994,903	1,984,734	10,169	0.5%
	2013	2,030,001	2,025,462	4,539	0.2%
	2014	2,063,837	2,059,619	4,218	0.2%

* 2004 Bridge Year Estimate from RP-2003-0203 was reported at column 2 because Board Approved numbers are not available since there was no 2004 Board Approved Volumes Budget due to the nature of the 2004 Rate Application. Please see RP-2003-0048, Exhibit A, Tab 3, Schedule 1 for the rationale for implementing this new approach.

KEY ECONOMIC ASSUMPTIONS

ECONOMIC OUTLOOK: CANADA & U.S.*

CALENDAR YEAR	2010	2011	2012	2013	2014	2015F	2016F
REAL GDP (% CHANGE)							
CANADA	3.3	2.9	1.8	1.6	2.4	2.2	2.2
U.S.	2.5	1.8	2.8	1.9	2.4	3.2	2.8
CANADA REAL EXPORTS (% CHANGE)	6.2	4.7	2.9	1.4	5.4	5.6	5.1
CANADA REAL IMPORTS (% CHANGE)	13.5	6.2	4.3	1.5	1.6	3.3	3.4
CANADA HOUSING STARTS (000's)	189.9	194.0	214.8	187.9	189.3	183.2	180.9
CANADA UNEMPLOYMENT RATE (%)	8.0	7.6	7.4	7.1	6.9	6.6	6.5
CANADA EMPLOYMENT GROWTH (% CHANGE)	1.4	1.6	1.3	1.2	0.8	1.1	1.2
CONSUMER PRICES (% CHANGE)							
CANADA	1.8	2.9	1.6	0.9	1.9	1.1	2.3
U.S.	1.7	3.1	2.1	1.5	1.6	1.0	2.4

* The forecasts have been updated to reflect the Q1 2015 Economic Outlook.

ECONOMIC OUTLOOK: ONTARIO*

CALENDAR YEAR	2010	2011	2012	2013	2014	2015F	2016F
REAL GDP (% CHANGE)	3.4	2.6	1.7	1.3	2.1	2.7	2.4
REAL MANUFACTURING OUTPUT (% CHANGE)	6.5	2.4	2.3	-2.3	2.9	3.0	2.1
HOUSING STARTS (000's)	60.4	67.8	76.7	61.1	59.1	61.4	59.9
UNEMPLOYMENT RATE (%)	8.6	7.8	7.9	7.5	7.3	6.8	6.6
EMPLOYMENT GROWTH (% CHANGE)	1.6	1.8	0.8	1.4	0.7	1.3	1.2
CONSUMER PRICES (% CHANGE)	2.4	3.1	1.4	1.1	2.4	1.0	2.4
RETAIL SALES (% CHANGE)	5.5	3.6	1.6	2.3	4.4	4.2	4.0
WAGE RATE ** (% CHANGE)	1.8	2.7	2.1	1.2	2.3	2.4	2.7
REAL RESIDENTIAL NATURAL GAS PRICE (% CHANGE)	-13.2	-11.5	-10.2	5.2	4.2	-4.9	1.7
REAL COMMERCIAL NATURAL GAS PRICE (% CHANGE)	-14.5	-12.8	-12.0	6.8	5.8	-4.9	2.3

* The forecasts have been updated to reflect the Q1 2015 Economic Outlook.

Witnesses: H. Sayyan
M. Suarez

ECONOMIC OUTLOOK: REGIONS*

CALENDAR YEAR	2010	2011	2012	2013	2014	2015F	2016F
FRANCHISE HOUSING STARTS (000's)	38.6	47.9	55.4	42.5	37.1	41.6	41.0
GTA							
HOUSING STARTS (000's)	30.6	40.5	48.0	34.5	29.3	34.2	34.0
SINGLES	11.8	12.1	11.8	10.6	9.9	10.7	10.2
MULTIPLES	18.8	28.5	36.2	23.8	19.5	23.5	23.8
CONSUMER PRICES (% CHANGE)	2.5	3.0	1.6	1.1	2.4	1.7	1.9
EMPLOYMENT GROWTH (% CHANGE)	2.1	2.1	0.8	3.2	0.9	2.3	2.3
COMMERCIAL VACANCY RATE (%)	7.9	7.0	6.8	7.1	7.9	7.9	7.9
INDUSTRIAL VACANCY RATE (%)	6.5	6.3	6.1	5.9	5.5	5.5	5.5
VINTAGE METRO REGION CENTRAL WEATHER ZONE (% CHANGE)	-0.7	-0.7	-0.6	-0.7	-0.4	-0.5	-0.5
VINTAGE WESTERN REGION CENTRAL WEATHER ZONE (% CHANGE)	-1.7	-1.7	-1.9	-1.9	-1.4	-1.4	-1.4
VINTAGE CENTRAL REGION CENTRAL WEATHER ZONE (% CHANGE)	-1.9	-2.0	-1.9	-1.6	-1.7	-1.7	-1.7
VINTAGE NORTHERN REGION CENTRAL WEATHER ZONE (% CHANGE)	-2.6	-2.5	-2.5	-2.2	-1.6	-1.7	-1.8
CENTRAL HEATING DEGREE DAYS**	2659	2856	2388	2879	3326	2691	2763
EASTERN							
HOUSING STARTS (000's)	6.6	6.0	6.2	6.7	5.8	6.0	5.7
SINGLES	2.4	2.2	1.7	1.9	1.8	1.9	1.8
MULTIPLES	4.2	3.8	4.5	4.8	4.0	4.1	3.9
CONSUMER PRICES (% CHANGE)	2.5	3.0	1.4	0.9	1.9	1.5	2.1
EMPLOYMENT GROWTH (% CHANGE)	1.3	0.1	2.5	-1.3	1.2	1.9	2.0
VINTAGE EASTERN WEATHER ZONE (% CHANGE)	-2.9	-2.9	-2.6	-2.4	-2.0	-2.4	-2.4
EASTERN HEATING DEGREE DAYS **	3092	3261	3160	3501	3804	3296	3339
NIAGARA							
HOUSING STARTS (000's)	1.3	1.3	1.2	1.4	1.9	1.4	1.4
SINGLES	0.9	0.7	0.7	0.8	1.1	0.8	0.8
MULTIPLES	0.4	0.6	0.5	0.6	0.8	0.6	0.6
EMPLOYMENT GROWTH (% CHANGE)	1.8	2.5	2.7	-3.5	0.0	2.6	1.2
VINTAGE NIAGARA WEATHER ZONE (% CHANGE)	-0.9	-1.1	-1.1	-1.4	-1.2	-1.1	-1.1
NIAGARA HEATING DEGREE DAYS **	2650	2737	2318	2795	3199	2664	2692

* The forecasts have been updated to reflect the Q1 2015 Economic Outlook.

**Balance Point Heating Degree Days are adjusted for billing cycles. The 2015 and 2016 Degree Day forecasts for all weather zones are generated by the methods approved the Board in its EB-2012-0459 Decision with Reasons dated July 17, 2014.

Witnesses: H. Sayyan
M. Suarez

BUDGET DEGREE DAYS

1. The purpose of this evidence is to provide the forecast of degree days for the 2016 Updated Forecast.

2. The 2016 degree day forecasts were prepared in accordance with the Ontario Energy Board's (the "Board") EB-2012-0459 Decision with Reasons dated July 17, 2014. The Board has approved the use of the 50:50 Hybrid method for the Central weather zone, the de Bever with Trend method for the Eastern weather zone and the 10-year moving average method for the Niagara weather zone as proposed by the Company. Table 1 displays the 2016 degree day forecasts that were generated according to the approved methodologies for each weather zone within the franchise using Environment Canada degree days. Conversions to Gas Supply degree days are depicted in the latter part of this evidence.

Table 1
Forecast of 2016 Environment Canada Degree Days

Region	*Methodology*	*Forecast*
Central	50:50 Hybrid	3,655
Eastern	De Bever with Trend	4,357
Niagara	10-year moving average	3,434

Degree Day Forecast Methodology

3. The degree day forecast for the Central weather zone was prepared using the 50:50 Hybrid method which is an average of the 10-year Moving Average and the 20-year Trend forecast. Table 2 provides the actual Environment Canada degree day data for the Central weather zone and the resultant 10-year moving average, 20-year Trend, and 50:50 Hybrid forecast. The 10-year moving average is

calculated using data covering the period 2005 to 2014[1], while 20-year Trend model is estimated for the period 1995 to 2014. The 20-year Trend model results are provided in Table 3.

[1] The 10 year moving average for year *t* is calculated as (DD_{t-2}+DD_{t-3}+ … +DD_{t-10}+DD_{t-11})/10 where DD is the actual degree day value.

Table 2
Environment Canada Degree Day Forecast – Central

Col. 1	*Col. 2*
Calendar Year	Actual[1]
1994	4,115
1995	4,040
1996	4,177
1997	4,026
1998	3,220
1999	3,539
2000	3,826
2001	3,420
2002	3,630
2003	3,982
2004	3,798
2005	3,797
2006	3,378
2007	3,722
2008	3,837
2009	3,836
2010	3,501
2011	3,648
2012	3,215
2013	3,775
2014	4,103
2016 Forecast (10-year Moving average)	3,681
2016 Forecast (20-year Trend)[2]	3,628
2016 Forecast (50:50 Hybrid)[3]	3,655

[1]Environment Canada heating degree day observations from Pearson Int't Airport until June 2013. Effective June 13th, 2013 Environment Canada is no longer able to provide degree day data for Pearson Int'l Airport. Data from June 12th, 2013 and thereafter are obtained from the Toronto Int'l A station.

[2]Calculated using the 20-year Trend regression equation from Table 3.

[3]Average of 10-year Moving average and 20-year Trend forecasts.

Table 3
Model Results & Test Statistics: 20-year Trend Methodology

Sample: 1995 2014 Included observations: 20

Col. 1	*Col. 2*	*Col. 3*	*Col. 4*	*Col. 5*
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3,810.2760	131.08	29.07	0.000
TREND	-8.2772	10.94	-0.76	0.459
R-squared	0.03	F-statistic	0.57	
		F-prob	0.46	

Environment Canada Central Degree Day= 3,810.276-8.2772*TREND
The trend variable takes the values of 1 through 20 for each of the years from 1995 to 2014. The value of 22 is used for 2016 to generate 2016 degree day forecast.

4. The degree day forecast for the Eastern weather zone was prepared using the de Bever with Trend method. This method regresses actual Environment Canada degree days on a constant, a 5-year weighted average of Environment Canada degree days[2] and a trend. The 5-year weighted averages are lagged two years. Table 4 displays the actual Environment Canada degree day data for the Eastern weather zone, the 5-year weighted averages used to estimate the model, and the resultant degree day forecast for 2016. The model is estimated over the period 1950 to 2014 for a total of 65 years which is determined by the cycle length with smallest variance. Estimation results are provided in Table 5.

[2] The five-year weighted average for year *t* is calculated as $(5*DD_{t-2}+4*DD_{t-3}+3*DD_{t-4}+2*DD_{t-5}+DD_{t-6})/15$ where DD is the actual degree day value.

Table 4
Environment Canada Degree Day Forecast – Eastern

Col. 1	*Col. 2*	*Col.3*
Calendar Year	Actual[1]	5-year Weighted MA[2]
1950	4,824	4,665
1951	4,587	4,594
1952	4,404	4,661
1953	4,059	4,641
1954	4,707	4,556
1955	4,689	4,385
1956	4,799	4,465
1957	4,405	4,523
1958	4,736	4,626
1959	4,718	4,584
1960	4,451	4,652
1961	4,586	4,669
1962	4,826	4,596
1963	4,921	4,584
1964	4,569	4,667
1965	4,810	4,753
1966	4,683	4,709
1967	4,882	4,755
1968	4,780	4,735
1969	4,698	4,775
1970	4,899	4,778
1971	4,797	4,762
1972	5,014	4,805
1973	4,420	4,808
1974	4,725	4,876
1975	4,514	4,736
1976	5,008	4,723
1977	4,597	4,637
1978	4,939	4,741
1979	4,589	4,695
1980	4,920	4,790
1981	4,438	4,735
1982	4,647	4,798
1983	4,536	4,674
1984	4,535	4,658
1985	4,659	4,601
1986	4,501	4,570
1987	4,328	4,585
1988	4,640	4,564
1989	4,931	4,482
1990	4,250	4,524
1991	4,303	4,657
1992	4,861	4,537
1993	4,780	4,461
1994	4,730	4,585
1995	4,585	4,646
1996	4,603	4,681
1997	4,786	4,680
1998	3,828	4,664
1999	4,137	4,689
2000	4,543	4,399
2001	4,115	4,276
2002	4,381	4,328
2003	4,715	4,240
2004	4,637	4,273
2005	4,421	4,444
2006	4,037	4,531
2007	4,447	4,511
2008	4,488	4,373
2009	4,534	4,376
2010	3,973	4,388
2011	4,144	4,430
2012	4,055	4,293
2013	4,402	4,242
2014	4,632	4,155
2016 Forecast (de Bever with Trend)[3]	4,357	

[1]Environment Canada heating degree day observations from MacDonald-Cartier Airport until December 2011. Effective December 15th, 2011, Environment Canada is no longer able to provide degree day data for MacDonald-Cartier Airport. Data from December 15th, 2011 and thereafter are obtained from the Ottawa Int'l A station.

[2]5-year weighted average lagged 2 years.

[3]Calculated using the de Bever with Trend regression equation from Table 5.

Table 5
Model Results & Test Statistics: De Bever with Trend Methodology

Sample: 1950 2014 Included observations: 65

Col. 1	*Col. 2*	*Col. 3*	*Col. 4*	*Col. 5*
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3,808.82	1,075.63	3.54	0.00
ECEDD5WA	0.2017	0.23	0.89	0.38
TREND	-4.9088	1.97	-2.49	0.02
R-squared	0.18	F-statistic	7.01	
Adjusted R-squared	0.16	F-prob	0.00	

Environment Canada Eastern Degree Day= 3,808.82+0.2017*ECEDD5WA-4.9088*TREND
5-year weighted average of 4,346.36 is used for 2016 to generate 2016 degree day forecast.
Trend variables takes 1-65 for the period of 1950-2014. 67 is used for 2016 to generate 2016 degree day forecast.

5. The degree day forecast for the Niagara weather zone was prepared using the 10-year Moving Average method. Table 6 displays the actual Environment Canada degree day data for the Niagara weather zone and the resultant degree day forecast which is calculated using data covering the period 2005 to 2014[3].

[3] The 10 year moving average for year *t* is calculated as $(DD_{t-2}+DD_{t-3}+ \ldots +DD_{t-10}+DD_{t-11})/10$ where DD is the actual degree day value.

Table 6
Environment Canada Degree Day Forecast – Niagara

Col. 1	*Col. 2*
Calendar Year	Actual[1]
2005	3,653
2006	3,163
2007	3,296
2008	3,480
2009	3,565
2010	3,344
2011	3,458
2012	3,021
2013	3,527
2014	3,832
2016 Forecast (10-yr Moving average)	3,434

[1]Environment Canada heating degree day observations from St. Catherines Airport until August 2008. Effective September 2008 Environment Canada is no longer able to provide degree day data for St.Catherines Airport. Data from September 2008 and thereafter are obtained from the Vineland Climate Station.

Gas Supply Degree Day Conversion

6. The final step in the degree day forecast involves the conversion of Environment Canada degree days to Gas Supply degree days. Environment Canada degree days are calculated as the average of degree days related to the daily minimum and maximum temperatures within a 24-hour period. On the other hand, Gas Supply degree days are determined relative to average hourly temperatures within a 24-hour period. The latter is used by Enbridge Gas Distribution Inc.'s Gas Control as it is perceived to be more representative of temperature variations within a given day. Although there are differences between the two measurements, the data sets are highly correlated.

7. The conversion leverages the correlation between both series and is carried out by regressing actual Gas Supply degree days onto actual Environment Canada degree days. The resultant equation (one for each weather zone) is used to convert the Environment Canada degree day forecast to the Gas Supply degree day forecast. Tables 7, 8, and 9 display actual Environment Canada degree days, actual Gas Supply degree days, and the resultant Gas Supply degree day forecasts for the 2016 test year for each of the Central, Eastern, and Niagara regions, respectively. Each conversion model uses a sample that is consistent with the approved methodology to generate the forecasts. The sample for the Eastern region utilizes all the historical data available for Gas Supply degree days.

Table 7
Determination of Gas Supply Equivalent Degree Days - Central

Col. 1	*Col. 2*	*Col. 3*
Calendar Year	Actual Environment Canada Degree Days	Actual Gas Supply Degree Days
1995	4,040	3,991
1996	4,177	4,133
1997	4,026	3,966
1998	3,220	3,202
1999	3,539	3,497
2000	3,826	3,784
2001	3,420	3,400
2002	3,630	3,597
2003	3,982	3,949
2004	3,798	3,766
2005	3,797	3,750
2006	3,378	3,355
2007	3,722	3,659
2008	3,837	3,801
2009	3,836	3,767
2010	3,501	3,466
2011	3,648	3,597
2012	3,215	3,194
2013	3,775	3,746
2014	4,103	4,044
2016 Forecast (10-year Moving average)[1]		3,641
2016 Forecast (20-year Trend)[2]		3,593
2016 Forecast (50:50 Hybrid)[3]		3,617

[1]2016 forecast (10-year Moving average) is calculated using the following regression equation:
Gas Supply degree day =122.1+0.956*(Environment Canada degree day)
R-squared=0.997, Adjusted R-squared=0.9968, F-statistic=3076.22, Prob(F-statistic)=0.000000
[2]2016 forecast (20-year Trend) is calculated using the following regression equation:
Gas Supply degree day =87.721+0.966*(Environment Canada degree day)
R-squared=0.998, Adjusted R-squared=0.998, F-statistic=10,059.46, Prob(F-statistic)=0.000000
[3]2016 forecast (50:50 Hybrid) is an average of 10-year Moving average and 20-year Trend.

Witnesses: H. Sayyan
M. Suarez

Table 8
Determination of Gas Supply Equivalent Degree Days - Eastern

Col. 1	*Col. 2*	*Col. 3*
Calendar Year	Actual Environment Canada Degree Days	Actual Gas Supply Degree Days
1970	4,899	5,018
1971	4,797	4,584
1972	5,014	4,816
1973	4,420	4,480
1974	4,725	4,858
1975	4,514	4,229
1976	5,008	4,901
1977	4,597	4,604
1978	4,939	4,920
1979	4,589	4,550
1980	4,920	4,853
1981	4,438	4,361
1982	4,647	4,617
1983	4,536	4,515
1984	4,535	4,504
1985	4,659	4,648
1986	4,501	4,507
1987	4,328	4,268
1988	4,640	4,601
1989	4,931	4,883
1990	4,250	4,225
1991	4,303	4,270
1992	4,861	4,746
1993	4,780	4,715
1994	4,730	4,700
1995	4,585	4,530
1996	4,603	4,561
1997	4,786	4,711
1998	3,828	3,802
1999	4,137	4,112
2000	4,543	4,506
2001	4,115	4,071
2002	4,381	4,317
2003	4,715	4,663
2004	4,637	4,598
2005	4,421	4,397
2006	4,037	4,012
2007	4,447	4,411
2008	4,488	4,431
2009	4,534	4,472
2010	3,973	3,947
2011	4,144	4,108
2012	4,055	4,048
2013	4,402	4,484
2014	4,632	4,552
2016 Forecast[1]		4,323

[1]2016 forecast is calculated using the following regression equation:
Gas Supply degree days = 174.469+0.95213*(Environment Canada degree days)
R-squared=0.9383, Adjusted R-squared=0.9368, F-statistic=653.685, Prob(F-statistic)=0.000000

Table 9
Determination of Gas Supply Equivalent Degree Days - Niagara

Col. 1	*Col. 2*	*Col. 3*
Calendar Year	Actual Environment Canada Degree Days	Actual Gas Supply Degree Days
2005	3,653	3,580
2006	3,163	3,079
2007	3,296	3,349
2008	3,480	3,510
2009	3,565	3,547
2010	3,344	3,322
2011	3,458	3,334
2012	3,021	3,013
2013	3,527	3,537
2014	3,832	3,814
2016 Forecast[1]		3,408

[1]2016 forecast is calculated using the following regression equation:
Gas Supply degree days = 13.5473+0.9887*(Environment Canada degree days)
R-squared=0.9496, Adjusted R-squared=0.9433, F-statistic=150.72, Prob(F-statistic)=0.0000

2016 Degree Day Forecasts:

Table 10
Summary of 2016 Degree Days Forecast

Region	***Environment Canada Degree Days***	***Gas Supply Degree Days***
Central	3,655	3,617
Eastern	4,357	4,323
Niagara	3,434	3,408

Witnesses: H. Sayyan
M. Suarez

AVERAGE USE FORECASTING MODEL

1. The purpose of this evidence is to present the forecasting methodology used to forecast average use for Rate 1 revenue class 20 and Rate 6 revenue classes 12, 48, and 73[1]. Rate 1 is the Company's residential rate class while Rate 6 is the Company's small apartment, commercial, and industrial rate class. Revenue class 20 is forecast to comprise 87% of Rate 1 volumes while revenue classes 12, 48, and 73 are forecast to collectively comprise 94% of Rate 6 volumes in 2016. The forecasting methodology for the other revenue classes in Rate 1 and Rate 6 are very similar to the models presented in this exhibit. The evidence validates that the Company's models continue to be accurate predictors of average use.

2. The Company moved to a more objective forecasting methodology starting in the 2001 Budget year in order to address the Board's concern with the systemic bias attributed to the grassroots forecasting process. This forecasting methodology removes systemic or subjective bias by developing regression models to forecast average use for the Company's Rate 1 general service customers and Rate 6 general service customers. This econometric methodology has been in place since 2001, the forecasts of which have been accepted in subsequent settlement proposals, and Board decisions. As shown in Tables 1 to 3, 5, and 8, the models exhibit a high R^2 and low Root Mean Squared Percentage Error ("RMSPE") indicating that each of the regression models is a good predictor of average use.

[1] Rate 1 is comprised of: revenue class 10 - residential heating, revenue class 20 - residential space heating and water heating, revenue class 50 - space heating, water heating and pool heating, revenue class 60 – residential general service and revenue class 61 – residential water heating. Rate 6 is comprised of: revenue class 12 – apartment heating and other uses, revenue class 48 commercial heating and other uses, revenue class 73 industrial heating and other uses, revenue class 79 commercial general service, revenue class 83 – industrial general service, revenue class 86 – apartment general service, revenue class 90 – commercial air conditioning and space heating.

3. The year-over-year growth rates in average use for all revenue classes are used as the basis for the average use forecast for Rate 1 and Rate 6 as shown at Exhibit C1, Tab 2, Schedule 1 Appendix A. Factors influencing overall average use include new customers (both new construction and replacement customers), the timing of new customer additions to the system, rate migration, gas prices, economic conditions, other external policy changes (e.g., Building Code) , and the Company's DSM programs. While average use changes for Rate 1 are fairly reflective of regression model results because of the homogenous nature of customers within this class, modeled Rate 6 average uses may be adjusted to account for known rate migration or specific changes in usage patterns for customers within this class. Please refer to Exhibit C1, Tab 2, Schedule 1 for a detailed explanation of the derivation of the Company's gas volume budget.

4. Average use is defined as gas volume per unlock customer. The econometric models presented here utilize historical data and relationships to estimate driver variables and derive a top down forecast of average use. The models presented in the exhibit incorporate updated driver variables and historical data obtained from federal and provincial statistical agencies and the Company's database. Maintaining an econometric model is an ongoing process; consequently, the models must be monitored and refined to ensure they are valid and produce accurate forecasts of general service average use.

Error Correction Model

5. The Company uses the Error Correction Model ("ECM") to forecast the average use for Rate 1 and Rate 6. The Error Correction Model and the two step estimation procedure are described more fully in Engle and Granger (1987).[2] The ECM uses the concept of co-integration or long-run association between variables.

[2] Engle, R.F. and Granger, C.W.J (1987), "Co-integration and Error Correction: Representation, Estimation and Testing," *Econometrica*, Vol. 55, No.2.

In other words, variables hypothesized to be linked by some theoretical economic relationship should not diverge from each other in the long run. Such variables may drift apart in the short run; however, if they were to diverge without bound, an equilibrium relationship among such variables could not be said to exist. The ECM methodology has been used extensively in the energy field for modeling electricity sales[3] and natural gas prices[4].

6. The major difference between the ECM approach and the standard dynamic single-equation model is the ECM approach explicitly takes into account both long-run equilibrium and short-run dynamic relationships in the determination of average use. It is known that economic theory can provide useful information about the variables relevant in the long-run. However, it is relatively silent on the short-run dynamics between variables. The ECM approach allows the historical data to determine the lag structures and short run dynamics.

7. The estimated models are used to generate a normalized forecast of average use. The main purpose of the normalized forecast is to derive average use such that the weather impact has been taken out. Using the estimated coefficients, weather normalized average use data are obtained by replacing actual degree days in the model with proposed degree days for 2016 for every year so that year-to-year percentage changes reflect the pure average use trend by eliminating weather variability.

[3] Engle, R.F., Granger, C.W.J. and Hallman, J.J. (1989), "Merging Short- and Long-Run Forecasts: An Application to Monthly Electricity Sales Forecasting," *Journal of Econometrics*, Vol.40.
[4] Bopp, A.E. (1990), "An Analytical Approach to Forecasting Natural Gas Prices," *AGA Forecasting Review*: American Gas Association.

Average Use Forecasting Methodology

8. The model's specification is based on an objective criterion: to minimize both in-sample and out-of-sample forecast error. The discrepancy between actual average use and the model's forecast can be segregated into three major sources of uncertainty: (1) model specification, (2) forecast error from the driver variables used in the model, and (3) unexpected shocks or structural breaks. Sources (2) and (3) are not within the Company's control and will inevitably occur regardless of which forecasting methodology is adopted. Therefore the objective of the modeling procedure, described below, is to minimize the controllable source of error, the model's specification.

9. The main criteria for assessing the model's predictive ability is the model's forecast accuracy. A comparison of actual un-normalized average use versus the forecasts produced by the model is used to assess predictive ability. Forecast accuracy for 2016 is measured using both in-sample and out-of-sample Mean Percentage Error ("MPE") and RMSPE. In-sample, or ex-post, means that the estimated model incorporates the entire sample, in this case 1985 to 2014. Out-of-sample, or ex-ante, means that the model incorporates only a portion of the sample, in this case 1985 to 2012. Forecasts of average use are produced under both approaches and measured against actual average use from 2013 to 2014 quantitatively via MPE and RMSPE. A two year "hold out" sample is used to compute the out-of-sample forecast accuracy statistics since the forecasting horizon for volumetric budgeting purposes is two years.

10. Table 1on the following page presents the forecast accuracy statistics for Rate 1 and Rate 6. The smaller the MPE and RMSPE, the better the model's forecast performance.

TABLE 1
FORECAST ERRORS - PERCENT VARIANCE & ROOT MEAN SQUARED PERCENTAGE ERROR

Col 1.	Col 2.	Col 3.
Forecast Error Method	Rate 1	Rate 6
In-Sample % Variance (2 Years)	0.51%	0.94%
In-Sample RMSPE (2 Years)	0.72%	1.14%
Out-of-Sample % Variance (2 Years)	1.21%	1.98%
Out-of-Sample RMSPE (2 Years)	1.26%	2.12%

$$MPE = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{Forecast_i - Actual_i}{Actual_i}\right)$$

$$RMSPE = \sqrt{\frac{1}{N}\sum_{i=1}^{N}\left(\frac{Forecast_i - Actual_i}{Actual_i}\right)^2}$$

11. Consistent with the settlement of Issue 1.1 in the RP-2000-0040 Settlement Agreement, Tables 2 and 3 on the following pages report the results that the models would generate using actual data to allow parties to compare results to the prior year's forecast. Tables 2 and 3 show the results that the models would have produced had all actual data been available at the time the forecast was produced. The tables are not updated for 2004 since there are no Board approved average use forecasts for this particular test year. In order to compare the variance between actual and Board Approved average use on the same basis, the actual results for each year have been normalized to the corresponding Board Approved degree days for each respective test year. The results in Tables 2 and 3 show the regression model is a good predictor of general service average use.

Witnesses: H. Sayyan
M. Suarez

TABLE 2

RATE 1 IN-SAMPLE FORECAST COMPARISON

Col 1.	Col 2.	Col 3.	Col 4.	Col 5.	Col 6.	Col 7.	Col 8.
Fiscal Year	Actual Normalized Average Use Per Customer	Board Approved Normalized Average Use Per Customer[1,3]	Variance Normalized Average Use Per Customer	% Variance Normalized Average Use Per Customer	Model's Normalized Average Use Per Customer[2]	Variance Normalized Average Use Per Customer	% Variance Normalized Average Use Per Customer
	(m3)	m(3)	(2-3)	100*((2-3)/3)	(m3)	(2-6)	100*((2-6)/6)
2001	3,014	3,044	(30)	-1.0%	3,022	(8)	-0.26%
2002	2,980	2,970	10	0.3%	2,963	17	0.57%
2003	2,877	2,892	(15)	-0.5%	2,897	(20)	-0.69%
2004	2,843	n/a	n/a	n/a	2,864	(21)	-0.73%
2005	2,890	2,953	(63)	-2.1%	2,929	(39)	-1.33%
2006	2,796	2,850	(54)	-1.9%	2,816	(20)	-0.71%
2007	2,726	2,687	39	1.5%	2,695	31	1.15%
2008	2,636	2,647	(11)	-0.4%	2,611	25	0.97%
2009	2,616	2,637	(21)	-0.8%	2,623	(6)	-0.24%
2010	2,579	2,622	(43)	-1.6%	2,550	29	1.15%
2011	2,594	2,643	(49)	-1.9%	2,607	(13)	-0.51%
2012	2,529	2,510	18	0.7%	2,528	1	0.02%
2013	2,547	2,568	(22)	-0.8%	2,517	30	1.18%
2014	2,475	2,433	41	1.7%	2,490	(15)	-0.60%

[1]Board approved normalized average use from RP-2000-0040, RP-2001-0032, RP-2002-0133, RP-2003-0203, EB-2005-000, EB-2006-0034, EB-2007-0615, EB-2008-0219, EB-2009-0172, EB-2010-0146, EB-2011-0277, EB-2011-0354 and EB-2012-0459 for 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011,2012, 2013 and 2014 respectively.

[2]Model's normalized average use is generated by running the model using actual data and driver variable information.

[3]There is no Board approved normalized average use for 2004.

TABLE 3
RATE 6 IN-SAMPLE FORECAST COMPARISON

Col 1.	Col 2.	Col 3.	Col 4.	Col 5.	Col 6.	Col 7.	Col 8.
Fiscal Year	Actual Normalized Average Use Per Customer	Board Approved Normalized Average Use Per Customer[1,3]	Variance Normalized Average Use Per Customer	% Variance Normalized Average Use Per Customer	Model's Normalized Average Use Per Customer[2]	Variance Normalized Average Use Per Customer	% Variance Normalized Average Use Per Customer
	(m3)	m(3)	(2-3)	100*((2-3)/3)	(m3)	(2-6)	100*((2-6)/6)
2001	22,510	22,643	(133)	-0.6%	22,706	(196)	-0.86%
2002	22,097	22,125	(28)	-0.1%	21,957	140	0.64%
2003	21,593	21,685	(92)	-0.4%	21,613	(20)	-0.09%
2004	21,472	n/a	n/a	n/a	21,377	95	0.44%
2005	22,241	22,507	(266)	-1.2%	22,334	(93)	-0.42%
2006	22,272	21,999	273	1.2%	22,149	123	0.55%
2007	22,783	21,010	1773	8.4%	22,973	(190)	-0.83%
2008	24,869	24,204	665	2.7%	25,273	(404)	-1.60%
2009	27,654	28,165	(512)	-1.8%	27,875	(222)	-0.79%
2010	29,106	27,949	1157	4.1%	29,691	(585)	-1.97%
2011	29,471	28,029	1442	5.1%	30,240	(769)	-2.54%
2012	28,941	30,122	(1182)	-3.9%	28,634	307	1.07%
2013	29,203	29,878	(675)	-2.3%	28,756	447	1.56%
2014	28,634	28,383	251	0.9%	28,535	99	0.35%

[1]Board approved normalized average use from RP-2000-0040, RP-2001-0032, RP-2002-0133, RP-2003-0203, EB-2005-000, EB-2006-0034, EB-2007-0615, EB-2008-0219, EB-2009-0172, EB-2010-0146, EB-2011-0277, EB-2011-0354 and EB-2012-0459 for 2001, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011,2012, 2013 and 2014 respectively.

[2]Model's normalized average use is generated by running the model using actual data and driver variable information.

[3]There is no Board approved normalized average use for 2004.

12. The primary goal of the average use forecast is to be accurate and objective. Ideally, the forecast error should be small in magnitude and distributed in a random fashion. Although the forecast errors in Tables 1, 2, and 3 are small in magnitude, forecast accuracy is conditional on driver variable forecast accuracy and the absence of any structural break between the historical period and the upcoming forecast period. Consequently, besides testing forecast accuracy, the models were subjected to a battery of diagnostic tests. These tests were run on the model to check for incorrect functional forms, parameter instability, structural breaks, omitted variables, and randomness of residuals. Overall the models have been thoroughly tested and are statistically valid. The following diagnostic tests were run on each model (results are shown in Tables 6 and 9):

Breusch-Godfrey Serial Correlation LM Test[5]

This test is used to test for autocorrelation in the residuals. Autocorrelation occurs when disturbances in a regression equation are serially correlated. The test is set up as follows:

Null Hypothesis: No serial correlation

Alternative Hypothesis: Serial correlation

ARCH Test

This test is used to test for Autoregressive Conditional Heteroskedasticity ("ARCH"). ARCH occurs when the variance of disturbances in a regression equation are not constant and are serially correlated. The test is set up as follows:

Null Hypothesis: No ARCH

Alternative Hypothesis: ARCH

Chow Forecast Test

This test is used to test for stability of a regression model. A regression model is not stable if the estimated coefficients change (and consequently the model's predictions) when estimated over various sample ranges. The test is set up as follows:

Null Hypothesis: No structural change

Alternative Hypothesis: Structural change

[5] The Durbin-Watson test is not used since it is not valid when there are lagged dependent variables in a regression equation. The Durbin Watson test is biased toward the finding of no serial correlation if there are lagged values of the dependent variable in the regression equation.

Ramsey RESET Test

This is a general test which tests for omitted variables, incorrect functional form and correlation between the independent variables and disturbances. The test is set up as follows:

Null Hypothesis: Normally distributed disturbances (zero mean, constant variance)

Alternative Hypothesis: Non- normally distributed disturbances (non-zero mean, constant variance)

13. The following tables present the mnemonics used in the models (Tables 4 and 7), the regression equations for each model (Tables 5 and 8), and the diagnostic tests results run on the models (Tables 6 and 9). For the t tests in the regression equations, the p-values in Tables 5 and 8 show the probability of obtaining a forecast at least as extreme as one that was actually observed, assuming that the null hypothesis (coefficient is not significant) is true. The p-value is compared to a significance level which is often 0.05 or 0.10, so that if its value is smaller, the null hypothesis is rejected at the 95% or 90% confidence level, respectively. The smaller the p-value, the more strongly the test rejects the null hypothesis, thereby supporting the statistical significance of the coefficient. In any instance where insignificant variables were retained within the models, it was for the purposes of (1) improving the significance of other coefficients or (2) optimizing forecast accuracy. For the diagnostic test results shown in Tables 6 and 9, the null hypotheses tested are the desired outcomes. In each case, to support the null hypothesis, p-values in excess of 0.10 are preferred. Overall, diagnostic test results in Table 6 and 9 show that the models in Table 5 and 8 are statistically valid and no assumptions appear to be violated at the 95% confidence level.

TABLE 4 - RATE 1 MODEL MNEMONICS

Mnemonic	Definition
C	Constant Term
LOG(X)	Logarithm of Variable X
DLOG(X)	$LOG(X_t) - LOG(X_{t-1})$, First Difference of Logarithm of Variable X
CDD, EDD, NDD	Balance Point Heating Degree Days for Central, Eastern and Niagara Weather Zones
MET20VINT	Vintage Variable for the Metro Region, Central Weather Zone
WES20VINT	Vintage Variable for the Western Region, Central Weather Zone
CEN20VINT	Vintage Variable for the Central Region, Central Weather Zone
NOR20VINT	Vintage Variable for the Northern Region, Central Weather Zone
ERC20VINT	Vintage Variable for the Eastern Weather Zone
NRC20VINT	Vintage Variable for the Niagara Weather Zone
REALCRCRPG	Real Residential Natural Gas Price for the Central Weather Zone
REALERCRPG	Real Residential Natural Gas Price for the Eastern Weather Zone
DUM2008-DUM2009-DUM2010	Dummy Variables for Recession Impact
CENTEMP	Central Weather Zone Employment
ECM_Region	Error Correction Term for Each Region

Witnesses: H. Sayyan
M. Suarez

TABLE 5 - RATE 1 REVENUE CLASS 20 REGRESSION EQUATIONS

Metro Region - Central Weather Zone

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	2.58	10.02	0.00
LOG(CDD)	0.70	21.96	0.00
LOG(REALCRCRPG)	-0.03	-2.04	0.05
LOG(MET20VINT)	0.78	12.17	0.00
DUM2008	-0.05	-4.07	0.00
DUM2010	-0.04	-2.92	0.01
R-squared	0.99		
Adjusted R-squared	0.99		
S.E. of regression	0.01		
F-statistic	541.65		0.00

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.00	0.21	0.84
DLOG(CDD)	0.75	29.94	0.00
DLOG(MET20VINT)	1.05	2.04	0.05
DUM2008	-0.01	-1.36	0.19
ECM_MET20(-1)	-0.37	-1.76	0.09
R-squared	0.98		
Adjusted R-squared	0.97		
S.E. of regression	0.01		
F-statistic	273.42		0.00

Western Region - Central Weather Zone

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.90	1.34	0.19
LOG(CDD)	0.70	29.30	0.00
LOG(REALCRCRPG)	-0.09	-6.82	0.00
LOG(WES20VINT)	0.42	6.59	0.00
LOG(CENTEMP)	0.19	2.48	0.02
DUM2008	-0.04	-4.32	0.00
DUM2010	-0.05	-4.73	0.00
R-squared	0.99		
Adjusted R-squared	0.99		
S.E. of regression	0.01		
F-statistic	726.97		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	-0.005	-2.27	0.03
DLOG(CDD)	0.72	37.83	0.00
DLOG(REALCRCRPG)	-0.08	-4.56	0.00
DUM2008	-0.01	-2.49	0.02
ECM_WES20(-1)	-0.75	-3.42	0.00
R-squared	0.99		
Adjusted R-squared	0.98		
S.E. of regression	0.01		
F-statistic	400.96		0.000

Central Region - Central Weather Zone

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.74	0.92	0.37
LOG(CDD)	0.70	20.35	0.00
LOG(REALCRCRPG)	-0.03	-2.00	0.06
LOG(CEN20VINT)	0.51	8.08	0.00
LOG(CENTEMP)	0.21	2.34	0.03
DUM2008	-0.05	-4.82	0.00
R-squared	0.99		
Adjusted R-squared	0.99		
S.E. of regression	0.01		
F-statistic	503.47		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.00	0.26	0.80
DLOG(CDD)	0.69	26.87	0.00
DLOG(REALCRCRPG)	-0.04	-1.66	0.11
DUM2008	-0.01	-1.45	0.16
DLOG(CEN20VINT)	0.38	1.96	0.06
ECM_CEN20(-1)	-0.92	-4.55	0.00
R-squared	0.98		
Adjusted R-squared	0.97		
S.E. of regression	0.01		
F-statistic	183.85		0.000

TABLE 5 CONTINUED - RATE 1 REVENUE CLASS 20 REGRESSION EQUATIONS

Northern Region - Central Weather Zone

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.65	0.82	0.42
LOG(CDD)	0.69	24.36	0.00
LOG(REALCRCRPG)	-0.08	-5.28	0.00
LOG(NOR20VINT)	0.46	8.32	0.00
LOG(CENTEMP)	0.25	2.63	0.01
DUM2009	-0.05	-5.25	0.00
R-squared	0.99		
Adjusted R-squared	0.99		
S.E. of regression	0.01		
F-statistic	864.60		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.00	-0.32	0.75
DLOG(CDD)	0.67	30.24	0.00
DLOG(REALCRCRPG)	-0.06	-2.87	0.01
DLOG(NOR20VINT)	0.29	1.81	0.08
ECM_NOR20(-1)	-1.01	-4.72	0.00
R-squared	0.98		
Adjusted R-squared	0.97		
S.E. of regression	0.01		
F-statistic	264.49		0.000

Eastern Weather Zone

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	1.62	5.25	0.00
LOG(EDD)	0.78	20.75	0.00
LOG(REALERCRPG)	-0.03	-2.37	0.03
LOG(ERC20VINT)	0.40	19.27	0.00
DUM2009	-0.05	-4.43	0.00
R-squared	0.99		
Adjusted R-squared	0.99		
S.E. of regression	0.01		
F-statistic	806.99		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	-0.01	-2.85	0.01
DLOG(EDD)	0.78	24.65	0.00
DLOG(REALERCRPG)	-0.02	-0.84	0.41
DUM2008	-0.01	-1.93	0.07
ECM_ERC20(-1)	-1.02	-4.46	0.00
R-squared	0.97		
Adjusted R-squared	0.97		
S.E. of regression	0.01		
F-statistic	194.80		0.000

Niagara Weather Zone

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	2.24	6.23	0.00
LOG(NDD)	0.73	16.13	0.00
LOG(NRC20VINT)	1.18	18.24	0.00
DUM2008	-0.05	-4.08	0.00
R-squared	0.99		
Adjusted R-squared	0.98		
S.E. of regression	0.02		
F-statistic	576.34		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	-0.01	-4.18	0.00
DLOG(NDD)	0.73	24.35	0.00
ECM_NRC20(-1)	-0.61	-3.48	0.00
R-squared	0.96		
Adjusted R-squared	0.96		
S.E. of regression	0.02		
F-statistic	329.85		0.000

Witnesses: H. Sayyan
M. Suarez

TABLE 6 - RATE 1

Model Diagnostic Tests

Col 1.	Col 2.	Col 3.	Col 4.	Col 5.	Col 6.	Col 7.	Col 8.
Test		Metro Region	Western Region	Central Region	Northern Region	Eastern Weather Zone	Niagara Weather Zone
Breusch-Godfrey Serial Correlation LM Test	Test Statistic	0.83	0.29	0.49	0.27	0.07	0.75
	P Value	0.36	0.59	0.48	0.60	0.79	0.39
ARCH Test	Test Statistic	0.24	3.15	0.62	0.02	0.00	0.80
	P Value	0.62	0.08	0.43	0.89	0.95	0.37
Chow Forecast Test: Forecast from 2014 to 2014	Test Statistic	0.44	0.80	0.03	0.31	0.74	1.05
	P Value	0.51	0.38	0.86	0.58	0.40	0.31
Ramsey RESET Test	Test Statistic	0.77	1.12	0.25	0.10	1.77	0.01
	P Value	0.39	0.30	0.62	0.75	0.20	0.91

Witnesses: H. Sayyan
M. Suarez

TABLE 7 - RATE 6 MODEL MNEMONICS

Mnemonic	Definition
C	Constant Term
LOG(X)	Logarithm of Variable X
DLOG(X)	$LOG(X_t) - LOG(X_{t-1})$, First Difference of Logarithm of Variable X
CDD, EDD, NDD	Balance Point Heating Degree Days for Central, Eastern and Niagara Weather Zones
CENTEMP	Central Weather Zone Employment
EASTEMP	Eastern Weather Zone Employment
NIAGEMP	Niagara Weather Zone Employment
REALERCCPG	Real Commercial Gas Price for the Eastern Weather Zone
REALNRCCPG	Real Natural Gas Price for the Niagara Weather Zone
ONTGDP	Ontario Real Gross Domestic Product
CRCCOMVAC	GTA Commercial Vacancy Rate
TIME	Time Trend
DUMRegion	Dummy Variable for Migration Impact
DUMXXXX	Dummy Variable for the Break in the Year XXXX
AR(p)	pth-order Autoregressive Process Term
ECM_Region	Error Correction Term for Each Region

Witnesses: H. Sayyan
M. Suarez

TABLE 8 - RATE 6 REVENUE CLASS 12 REGRESSION EQUATIONS

Central Revenue Class 12 (Apartment)

Single Equation Model

Variable	Coefficient	t-Statistic	p-Value
C	2.05	2.09	0.05
LOG(CDD)	0.64	7.33	0.00
LOG(CENTEMP)	0.55	8.17	0.00
DUM1996	-0.09	-5.15	0.00
DUMCRC12	0.23	7.97	0.00
AR(4)	-0.62	-2.90	0.01
R-squared	0.97		
Adjusted R-squared	0.97		
S.E. of regression	0.03		
F-statistic	144.918		0.000

Eastern Revenue Class 12 (Apartment)

Single Equation Model

Variable	Coefficient	t-Statistic	p-Value
C	3.35	2.33	0.03
LOG(EDD)	0.57	8.44	0.00
LOG(TIME)	-0.05	-3.90	0.00
DUMERC12	0.26	10.16	0.00
DUM2011	-0.13	-5.23	0.00
LOG(REALERCCPG)	-0.14	-3.15	0.00
LOG(EASTEMP)	0.46	2.46	0.02
DUM2014	0.05	1.98	0.06
R-squared	0.97		
Adjusted R-squared	0.96		
S.E. of regression	0.02		
F-statistic	103.31		0.000

Niagara Revenue Class 12 (Apartment)

Single Equation Model

Variable	Coefficient	t-Statistic	p-Value
C	3.99	3.43	0.00
LOG(NDD)	0.58	8.69	0.00
LOG(TIME)	-0.03	-3.21	0.00
LOG(NIAGEMP)	0.40	2.61	0.02
LOG(REALNRCCPG)	-0.07	-2.15	0.04
DUMNRC12	-0.07	-4.76	0.00
DUM2011	-0.10	-4.62	0.00
AR(1)	-0.41	-1.96	0.06
R-squared	0.91		
Adjusted R-squared	0.87		
S.E. of regression	0.03		
F-statistic	28.93		0.000

Witnesses: H. Sayyan
M. Suarez

TABLE 8 CONTINUED - RATE 6 REVENUE CLASS 48 REGRESSION EQUATIONS

Central Revenue Class 48 (Commercial)

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.28	0.33	0.75
LOG(CDD)	0.84	17.27	0.00
LOG(TIME)	-0.12	-8.99	0.00
LOG(CRCCOMVAC)	-0.07	-4.32	0.00
LOG(ONTGDP)	0.25	4.26	0.00
DUMCRC48	0.11	10.06	0.00
R-squared	0.97		
Adjusted R-squared	0.96		
S.E. of regression	0.02		
F-statistic	146.78		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.00	0.14	0.89
DLOG(CDD)	0.82	30.44	0.00
DLOG(TIME)	-0.06	-3.04	0.01
DLOG(CRCCOMVAC)	-0.05	-3.86	0.00
DUMCRC48	0.02	2.51	0.02
ECM_CRC48(-1)	-0.82	-5.30	0.00
R-squared	0.98		
Adjusted R-squared	0.97		
S.E. of regression	0.01		
F-statistic	192.62		0.000

Eastern Revenue Class 48 (Commercial)

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	2.14	2.20	0.04
LOG(EDD)	0.71	10.03	0.00
LOG(TIME)	-0.16	-12.28	0.00
LOG(ONTGDP)	0.18	3.29	0.00
DUMERC48	0.10	4.97	0.00
DUM2010	0.10	5.00	0.00
R-squared	0.96		
Adjusted R-squared	0.95		
S.E. of regression	0.02		
F-statistic	114.35		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.01	1.07	0.29
DLOG(EDD)	0.70	8.96	0.00
DLOG(TIME)	-0.13	-2.75	0.01
ECM_ERC48(-1)	-0.72	-2.49	0.02
R-squared	0.81		
Adjusted R-squared	0.79		
S.E. of regression	0.03		
F-statistic	35.82		0.000

Niagara Revenue Class 48 (Commercial)

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	-1.53	-1.06	0.30
LOG(NDD)	0.74	14.18	0.00
LOG(TIME)	-0.09	-5.02	0.00
LOG(REALNRCCPG)	-0.18	-4.73	0.00
LOG(ONTGDP)	0.42	4.09	0.00
DUMNRC48	0.11	4.55	0.00
DUM2010	-0.10	-3.63	0.00
R-squared	0.93		
Adjusted R-squared	0.92		
S.E. of regression	0.02		
F-statistic	53.54		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	0.00	-0.36	0.72
DLOG(NDD)	0.75	13.36	0.00
DUMNRC48	0.11	3.38	0.00
DUM2010	-0.12	-3.44	0.00
DLOG(REALNRCCPG)	-0.07	-1.59	0.13
ECM_NRC48(-1)	-0.89	-2.77	0.01
R-squared	0.91		
Adjusted R-squared	0.89		
S.E. of regression	0.03		
F-statistic	48.25		0.000

TABLE 8 CONTINUED - RATE 6 REVENUE CLASS 73 REGRESSION EQUATIONS

Central Revenue Class 73 (Industrial)

Long Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	1.90	0.67	0.51
LOG(CDD)	0.46	2.55	0.02
LOG(TIME)	-0.15	-3.76	0.00
LOG(ONTGDP)	0.44	2.66	0.01
DUMCRC73	0.51	12.11	0.00
R-squared	0.91		
Adjusted R-squared	0.89		
S.E. of regression	0.07		
F-statistic	62.40		0.000

Short Run Equation

Variable	Coefficient	t-Statistic	p-Value
C	-0.02	-2.23	0.04
DLOG(CDD)	0.54	8.48	0.00
DLOG(ONTGDP)	0.72	2.41	0.02
DUMCRC73	0.24	6.46	0.00
DUM2009	-0.18	-4.55	0.00
ECM_CRC73(-1)	-0.61	-5.87	0.00
R-squared	0.87		
Adjusted R-squared	0.84		
S.E. of regression	0.03		
F-statistic	30.26		0.000

Eastern Revenue Class 73 (Industrial)

Single Equation Model

Variable	Coefficient	t-Statistic	p-Value
C	-317,687.80	-4.71	0.00
EDD	26.72	2.56	0.02
DUM2003	60,187.99	4.52	0.00
DUM2004	-161,660.20	-9.37	0.00
DUMERC73	116,265.20	13.85	0.00
EASTEMP	733.14	6.84	0.00
TIME	-6,262.15	-7.21	0.00
R-squared	0.96		
Adjusted R-squared	0.96		
S.E. of regression	12,026.14		
F-statistic	105.05		0.000

Niagara Revenue Class 73 (Industrial)

Single Equation Model

Variable	Coefficient	t-Statistic	p-Value
C	-1.57	-0.43	0.67
LOG(NDD)	0.80	3.55	0.00
DUM2002	-0.36	-4.08	0.00
DUMNRC73	0.47	4.33	0.00
DUM2010	0.39	3.57	0.00
LOG(NIAGEMP)	1.25	2.35	0.03
AR(1)	0.66	3.63	0.00
R-squared	0.96		
Adjusted R-squared	0.95		
S.E. of regression	0.10		
F-statistic	87.66		0.000

TABLE 9-RATE 6
Model Diagnostic Tests

Col 1.	Col 2.	Col 3.	Col 4.	Col 5.	Col 6.	Col 7.	Col 8.	Col 9.	Col 10.	Col 11.
		Revenue Class 12 (Apartment) Model Diagnostic Tests			**Revenue Class 48 (Commercial) Model Diagnostic Tests**			**Revenue Class 73 (Industrial) Model Diagnostic Tests**		
Test		Central Weather Zone	Eastern Weather Zone	Niagara Weather Zone	Central Weather Zone	Eastern Weather Zone	Niagara Weather Zone	Central Weather Zone	Eastern Weather Zone	Niagara Weather Zone
Breusch-Godfrey Serial Correlation LM Test	Test Statistic	2.51	1.43	0.65	1.42	2.53	0.99	1.36	0.88	2.33
	P Value	0.11	0.23	0.42	0.23	0.11	0.32	0.24	0.35	0.13
ARCH Test	Test Statistic	0.05	1.31	0.59	0.61	0.00	2.76	1.15	2.28	1.53
	P Value	0.82	0.25	0.44	0.44	0.99	0.10	0.28	0.13	0.22
Chow Forecast Test: Forecast from 2014 to 2014	Test Statistic	0.20	3.93*	1.01	0.63	0.05	0.72	0.50	3.14	0.05
	P Value	0.66	0.06	0.33	0.44	0.82	0.41	0.49	0.09	0.82
Ramsey RESET Test	Test Statistic	1.01	2.80	0.73	1.44	0.72	1.28	1.50	0.07	2.44
	P Value	0.33	0.11	0.40	0.24	0.40	0.27	0.23	0.80	0.13

*without dum2014

Witnesses: H. Sayyan
M. Suarez

14. Major driver variables in the models are balance point heating degree days adjusted for billing cycles, vintage, a time trend, real natural gas prices, and economic variables. Driver variable assumptions are shown in the Economic Outlook at Exhibit C2, Tab 1, Schedule 1.

15. Natural gas prices have an important impact on average use. Sharp increases typically have two effects. First, they influence customers' fuel use habits, for example, the lowering of thermostat settings. Second, price increases likely factor in customers' decision-making around the purchase of more efficient furnaces and other appliances. In addition, homeowners may also respond by retrofitting older residences in order to reduce energy consumption. In the models, real natural gas prices are used. The Consumer Price Index ("CPI") is used to convert nominal gas prices to real gas prices. Nominal energy price forecast for 2016 is based on the consensus Henry Hub price forecast produced in January 2015.

16. A linear time trend is used as a proxy measure for energy conservation. However, a linear time trend only reflects constant annual changes in appliance efficiency; it will not be able to reflect the time varying impact of new residential construction on appliance efficiency. Consequently, a vintage variable serves as either a supplementary or complementary variable to the time trend in the model.

17. The vintage variable (for revenue class 20 only) is employed as a proxy measure of gas space heating and gas water heating efficiency gains and residential thermal efficiency. Newer homes with improved thermal envelope characteristics and older homes adding insulation and storm windows/doors reduce the typical amount of gas needed for space heating. Residential thermal efficiency will continue to improve as newer, better-insulated residences account for a larger

portion of the housing stock. The vintage variable captures the impact of both furnace efficiency and new home thermal efficiency on average use.

18. Vintage is defined as the calendar year in which the customer became a customer (new gas service main date) and is not based on the age of the building. This data includes both new construction and conversion customer additions. As space heating efficiency gains have a greater impact on average use than thermal improvements to homes, customers by vintage is a better variable than age of the building in terms of explaining the percentage decline in residential average use.

19. An illustration of the vintage ratio for 1992 follows:

$$V_{1992} = \frac{\sum_{y=1987}^{1991} V_y}{\sum_{yy=1987}^{1992} V_{yy}}$$ where V denotes vintage.

20. Calendar 1992 is used as the reference year for the vintage ratio since the Energy Efficiency Act prohibited selling of the conventional low-efficiency furnace in January 1992.[6] Consequently, this ratio will capture the increasing market share of both mid-efficiency and high-efficiency furnaces at the expense of declining market share of conventional furnaces over time. Generally, regions with stronger new construction additions experience a sharper decline in the ratio than established regions like Metropolitan Toronto. As more new customers are added to the revenue class the declining ratio leads to lower average use over time. Thus the sign of this variable's coefficient is positive.

[6] During the 1970s natural gas furnaces averages about 65% Annual Fuel Utilization Efficiency ("AFUE"). The Energy Efficiency Act imposed 78% AFUE as a minimum for gas furnaces manufactured after January 1, 1992.

21. Economic variables such as employment, vacancy rates, and gross domestic product can impact demand for new gas appliances as well as impact demand for natural gas for space heating and manufacturing processes. Stronger employment and demand for products both domestically and abroad will generally increase natural gas demand.

Risks to the Forecast

22. The impact of customer mix on average use is not static and changes over time. New customers may have different gas use characteristics than existing customers and may be influenced by builder specifications for inclusion/exclusion of new gas appliances. Thus, aggregate average use will be affected even if customers take no actions that could affect their average use. Advances in the future penetration of gas appliances above historical penetration levels implicit in the model could result in increased average use. Conversely, builder specification of non-gas water and/or space heating equipment represents a risk to the forecast as it could result in lower gas consumption than forecast.

23. The use of more efficient water heaters across the franchise area and/or the loss of natural gas water heating to other fuels could result in a permanent decrease in baseload usage and natural gas consumption relative to the forecast.

24. Gas consumption for space heating is very sensitive to thermostat settings. Customers may set their thermostats lower under extremely warm weather like that experienced in 1998, 2001, 2006, and most recently in 2012.

25. Economic activity can impact both demand for appliances and natural gas. If the economy slows more significantly and natural gas prices are higher than indicated in the Economic Outlook (Exhibit C2, Tab 1, Schedule 1), average use will decline further.

26. A structural break in the historical estimated relationship between average use and the driver variables will increase forecast risk as will forecast uncertainty in the driver variables.

Conclusion

27. The model employed by the Company passes a battery of statistical tests and is valid given current and historical information. Continual evaluation and testing is required, as new information becomes available. The model has been estimated over volatile periods in history – recent years of unexpected warm weather, historically high energy prices and increased energy price volatility. In light of these volatile economic and weather conditions, continuous model evaluation ensures that ongoing impacts in the relationship of average use and its driver variables is captured to produce the most accurate and objective forecast as possible.

Table 1: GROSS CUSTOMER ADDITIONS

Item No.	Sector	*Col. 1* 2014 Actual	*Col. 2* 2015 Budget Board Approved	*Col. 3* 2016 Forecast
	Residential[1]			
1.1	New Construction	23,595	24,678	24,346
1.2	Replacement[2]	8,451	7,428	8,435
1.0	Total Residential	32,046	32,106	32,781
	Commercial[3]			
2.1	New Construction	1,725	1,722	1,941
2.2	Replacement	730	703	864
2.0	Total Commercial	2,455	2,425	2,805
	Industrial			
3.1	New Construction	1	4	6
3.2	Replacement	2	1	0
3.0	Total Industrial	3	5	6
4.0	Total Gross Customer Additions	34,504	34,536	35,592

[1] Residential customers include single homes and apartment ensuites

[2] Replacement customers are existing homes and businesses, which switch from other energy sources to natural gas

[3] Commercial customers include commercial and traditional apartment buildings

EXPLANATION OF MAJOR TRENDS IN CUSTOMER ADDITIONS

Customer Additions

1. The 2016 customer additions Forecast, 2015 Board Approved Budget as filed in Enbridge's 2015 Rate Adjustment proceeding EB-2014-0276, and 2014 Actual additions are outlined in Table 1. The 2016 Forecast projects an increase in 2016 customer additions relative to 2014 Actual and 2015 Budget. This increase is impacted by the inclusion of 1,590 additional customers projected to be added in the fourth quarter of 2016 as part of the Community Expansion ("CE") Program. Enbridge expects to file a Leave to Construct application for the CE program in the last quarter of 2015. In the event that Enbridge's CE Leave to Construct Application proposes separate treatment (potentially as a Y-factor) for the impacts of the CE Program (which would include capital spending, customer additions and increased volumes and revenues), then the Company expects that it would remove the impact of the CE customer additions from the determination of final 2016 rates submitted for approval.

2. Enbridge's baseline forecast absent the CE program is slightly less than 2014 Actual and 2015 Budget, which is consistent with the corresponding housing starts projections as filed at Exhibit C2, Tab , Schedule 1 in EB-2014-0276 and Exhibit C2, Tab 1, Schedule 1 in EB-2015-0114.

3. The customer additions forecast was developed using a number of sources including information gathered through direct contact with builders, developers and municipalities as well as economic indicators such as housing starts, GDP growth, employment and mortgage rates. The approach used to develop the forecast is

consistent with the approach used by the Company in previous rate applications, and has been accepted in settlement proposals and Board decisions.

Residential Customers

4. The residential sector is comprised of the new construction ("NC") and replacement markets and accounts for over 90% of the Company's customer additions forecast. Residential NC consists of new homes in new developments while the replacement market is comprised of customers in existing homes that switch to natural gas from other energy sources. Relative to 2014, growth in the NC market is projected to increase in 2015 followed by a slight decline in 2016. The 2016 forecast is in line with the trend in housing starts. Customer growth in the replacement sector is expected to stay positive, driven by the price advantage of natural gas relative to alternative fuels such as electricity, propane and heating oil.

Commercial Customers

5. Economic stability in Ontario is expected to encourage investments in the commercial sector and moderate growth is expected in both components of this sector, commercial and apartment traditional. Growth in 2016 is expected to be slightly higher than the previous years.

Industrial Customers

6. The growth expected in the industrial sector has not changed much compared to 2014 Actual and 2014 Board Approved Budget. The Company is forecasting to add six industrial customers in 2016.

UTILITY REVENUE
2016 UPDATED FORECAST (INCLUDING CIS & CUSTOMER CARE

Line No.		Col. 1 EB-2012-0459 2016 Utility Placeholder Revenue ($Millions)	Col. 2 2016 CIR Update Adjustments ($Millions)	Col. 3 2016 Updated Forecast Utility Revenue ($Millions)
1.	Gas sales	2,464.5	85.5	2,550.0
2.	Transportation of gas	217.1	42.2	259.3
3.	Transmission, compression and storage revenue	1.8	0.1	1.9
4.	Other operating revenue	42.7	-	42.7
5.	Interest and property rental	-	-	-
6.	Other income	0.1	-	0.1
7.	Total operating revenue	2,726.2	127.8	2,854.0

Witness: R. Small

EXPLANATION OF ADJUSTMENTS TO UTILITY REVENUE
2016 UPDATED FORECAST (INCLUDING CIS & CUSTOMER CARE

Line No.	Adj'd Adjustment ($Millions)	Explanation
1.	85.5	Gas Sales Adjustment to 2016 placeholder gas sales revenues to reflect the updated 2016 volume forecast and Board Approved July 1, 2015 rates.
2.	42.2	Transportation of gas Adjustment to 2016 placeholder transportation of gas revenues to reflect the updated 2016 volume forecast and Board Approved July 1, 2015 rates.
3.	0.1	Transmission, compression and storage revenue Adjustment to 2016 placeholder transmission, compression and storage revenues to reflect the updated 2016 volume forecast and Board Approved July 1, 2015 rates.

CUSTOMER METERS AND VOLUMES BY RATE CLASS
2016 BUDGET

Item No.		Col. 1 Customers (Average)	Col. 2 Volumes (10^6m^3)	Col. 3 Revenues ($Millions)	
General Service					
1.1.1	Rate 1 - Sales	1 817 760	4 511	1 612.4	
1.1.2	Rate 1 - T-Service	146 683	358.8	70.3	
1.1	Total Rate 1	1 964 443	4 870.0	1 682.7	
1.2.1	Rate 6 - Sales	144 659	3 106.1	875.0	
1.2.2	Rate 6 - T-Service	21 243	1 690.1	138.7	
1.2	Total Rate 6	165 902	4 796.2	1 013.7	
1.3.1	Rate 9 - Sales	6	0.5	0.1	
1.3.2	Rate 9 - T-Service	1	0.1	0.0	**
1.3	Total Rate 9	7	0.6	0.1	
1.	Total General Service Sales & T-Service	2 130 352	9 666.8	2 696.5	
Contract Sales					
2.1	Rate 100	0	0.0	0.0	
2.2	Rate 110	36	81.3	16.8	
2.3	Rate 115	0	0.0	0.0	
2.4	Rate 135	2	3.8	0.7	
2.5	Rate 145	5	11.2	2.3	
2.6	Rate 170	4	34.1	6.2	
2.7	Rate 200	1	170.8	31.4	
2.	Total Contract Sales	48	301.2	57.4	
Contract T-Service					
3.1	Rate 100	0	0.0	0.0	
3.2	Rate 110	186	622.1	25.4	
3.3	Rate 115	25	517.1	7.6	
3.4	Rate 125	5	0.0	* 9.8	
3.5	Rate 135	42	55.5	2.2	
3.6	Rate 145	47	77.3	2.4	
3.7	Rate 170	21	291.6	3.3	
3.8	Rate 300	2	35.0	0.2	
3.9	Rate 315	0	0.0	0.0	
3.	Total Contract T-Service	328	1 598.6	50.9	
4.	Total Contract Sales & T-Service	376	1 899.8	108.3	
5.	Total	2 130 728	11 566.6	2 804.8	

* There is no distribution volume for Rate 125 customers.
** Less than $50,000.

Witness: M. Suarez

COMPARISON OF AVERAGE CUSTOMER METERS BY RATE CLASS
2016 BUDGET AND 2015 BOARD APPROVED BUDGET

Item No.		Col. 1 2016 Budget	Col. 2 2015 Board Approved Budget	Col. 3 2016 Budget Over (Under) 2015 Budget (1-2)
General Service				
1.1.1	Rate 1 - Sales	1 817 760	1 732 846	84 914
1.1.2	Rate 1 - T-Service	146 683	201 089	(54 406)
1.1	Total Rate 1	1 964 443	1 933 935	30 508
1.2.1	Rate 6 - Sales	144 659	140 731	3 928
1.2.2	Rate 6 - T-Service	21 243	23 898	(2 655)
1.2	Total Rate 6	165 902	164 629	1 273
1.3.1	Rate 9 - Sales	6	6	0
1.3.2	Rate 9 - T-Service	1	1	0
1.3	Total Rate 9	7	7	0
1.	Total General Service Sales & T-Service	2 130 352	2 098 571	31 781
Contract Sales				
2.1	Rate 100	0	0	0
2.2	Rate 110	36	34	2
2.3	Rate 115	0	1	(1)
2.4	Rate 135	2	5	(3)
2.5	Rate 145	5	11	(6)
2.6	Rate 170	4	5	(1)
2.7	Rate 200	1	1	0
2.	Total Contract Sales	48	57	(9)
Contract T-Service				
3.1	Rate 100	0	0	0
3.2	Rate 110	186	152	34
3.3	Rate 115	25	30	(5)
3.4	Rate 125	5	5	0
3.5	Rate 135	42	37	5
3.6	Rate 145	47	69	(22)
3.7	Rate 170	21	29	(8)
3.8	Rate 300	2	2	0
3.9	Rate 315	0	0	0
3.	Total Contract T-Service	328	324	4
4.	Total Contract Sales & T-Service	376	381	(5)
5.	Total	2 130 728	2 098 952	31 776

Witness: M. Suarez

COMPARISON OF GAS SALES AND TRANSPORTATION VOLUME BY RATE CLASS
2016 BUDGET AND 2015 BOARD APPROVED BUDGET
(10^6m^3)

Item No.		Col. 1 2016 Budget	Col. 2 2015 Board Approved Budget	Col. 3 2016 Budget Over (Under) 2015 Budget (1-2)
General Service				
1.1.1	Rate 1 - Sales	4 511.2	4 199.8	311.4
1.1.2	Rate 1 - T-Service	358.8	476.0	(117.2)
1.1	Total Rate 1	4 870.0	4 675.8	194.2
1.2.1	Rate 6 - Sales	3 106.1	2 894.3	211.8
1.2.2	Rate 6 - T-Service	1 690.1	1 800.7	(110.6)
1.2	Total Rate 6	4 796.2	4 695.0	101.2
1.3.1	Rate 9 - Sales	0.5	0.5	0.0
1.3.2	Rate 9 - T-Service	0.1	0.1	0.0
1.3	Total Rate 9	0.6	0.6	0.0
1.	Total General Service Sales & T-Service	9 666.8	9 371.4	295.4
Contract Sales				
2.1	Rate 100	0.0	0.0	0.0
2.2	Rate 110	81.3	72.2	9.1
2.3	Rate 115	0.0	1.2	(1.2)
2.4	Rate 135	3.8	3.7	0.1
2.5	Rate 145	11.2	20.0	(8.8)
2.6	Rate 170	34.1	39.7	(5.6)
2.7	Rate 200	170.8	169.1	1.7
2.	Total Contract Sales	301.2	305.9	(4.7)
Contract T-Service				
3.1	Rate 100	0.0	0.0	0.0
3.2	Rate 110	622.1	423.1	199.0
3.3	Rate 115	517.1	530.8	(13.7)
3.4	Rate 125	0.0 *	0.0 *	0.0
3.5	Rate 135	55.5	54.3	1.2
3.6	Rate 145	77.3	118.9	(41.6)
3.7	Rate 170	291.6	453.2	(161.6)
3.8	Rate 300	35.0	30.0	5.0
3.9	Rate 315	0.0	0.0	0.0
3.	Total Contract T-Service	1 598.6	1 610.3	(11.7)
4.	Total Contract Sales & T-Service	1 899.8	1 916.2	(16.4)
5.	Total	11 566.6	11 287.6	279.0

* There is no distribution volume for Rate 125 customers.

Witness: M. Suarez

COMPARISON OF GAS SALES AND
TRANSPORTATION VOLUME BY RATE CLASS
2016 BUDGET AND 2015 BOARD APPROVED BUDGET
($10^6 m^3$)

Item No.		Col. 1 2016 Budget	Col. 2 2015 Board Approved Budget	Col. 3 2016 Budget Over (Under) 2015 Budget (1-2)	Col. 4 2015* Adjustments	Col. 5 2016 Budget Over (Under) 2015 Budget with Adjustments (3-4)
General Service						
1.1.1	Rate 1 - Sales	4 511.2	4 199.8	311.4	64.8	246.6
1.1.2	Rate 1 - T-Service	358.8	476.0	(117.2)	7.5	(124.7)
1.1	Total Rate 1	4 870.0	4 675.8	194.2	72.3	121.9
1.2.1	Rate 6 - Sales	3 106.1	2 894.3	211.8	46.6	165.2
1.2.2	Rate 6 - T-Service	1 690.1	1 800.7	(110.6)	18.8	(129.4)
1.2	Total Rate 6	4 796.2	4 695.0	101.2	65.4	35.8
1.3.1	Rate 9 - Sales	0.5	0.5	0.0	0.0	0.0
1.3.2	Rate 9 - T-Service	0.1	0.1	0.0	0.0	0.0
1.3	Total Rate 9	0.6	0.6	0.0	0.0	0.0
1.	Total General Service Sales & T-Service	9 666.8	9 371.4	295.4	137.7	157.7
Contract Sales						
2.1	Rate 100	0.0	0.0	0.0	0.0	0.0
2.2	Rate 110	81.3	72.2	9.1	0.0 **	9.1
2.3	Rate 115	0.0	1.2	(1.2)	0.0 **	(1.2)
2.4	Rate 135	3.8	3.7	0.1	0.0 **	0.1
2.5	Rate 145	11.2	20.0	(8.8)	0.1	(8.9)
2.6	Rate 170	34.1	39.7	(5.6)	0.1	(5.7)
2.7	Rate 200	170.8	169.1	1.7	0.0	1.7
2.	Total Contract Sales	301.2	305.9	(4.7)	0.2	(4.9)
Contract T-Service						
3.1	Rate 100	0.0	0.0	0.0	0.0	0.0
3.2	Rate 110	622.1	423.1	199.0	0.3	198.7
3.3	Rate 115	517.1	530.8	(13.7)	0.1	(13.8)
3.4	Rate 125	0.0	0.0	0.0	0.0	0.0
3.5	Rate 135	55.5	54.3	1.2	0.0	1.2
3.6	Rate 145	77.3	118.9	(41.6)	0.4	(42.0)
3.7	Rate 170	291.6	453.2	(161.6)	2.0	(163.6)
3.8	Rate 300	35.0	30.0	5.0	0.0	5.0
3.9	Rate 315	0.0	0.0	0.0	0.0	0.0
3.	Total Contract T-Service	1 598.6	1 610.3	(11.7)	2.8	(14.5)
4.	Total Contract Sales & T-Service	1 899.8	1 916.2	(16.4)	3.0	(19.4)
5.	Total	11 566.6	11 287.6	279.0	140.7	138.3

*Note: Weather normalization adjustments have been made to the 2015 Board Approved Budget utilizing the 2016 Budget degree days in order to place the two years on a comparable basis.

** Less than 50,000 m^3.

COMPARISON OF GAS SALES AND TRANSPORTATION VOLUME BY RATE CLASS
2016 BUDGET AND 2015 BOARD APPROVED BUDGET
(10^6m^3)

Item No.		Col. 1 2016 Budget	Col. 2 2015 Borad Approved Budget	Col. 3 2016 Budget Over (Under) 2015 Budget (1-2)	Col. 4 Change in Use	Col. 5 Weather	Col. 6 New Customers	Col. 7 Transfer Gains	Col. 8 Transfer Losses	Col. 9 Lost Customers	Col. 10 Added Load
General Service											
1.1.1	Rate 1 - Sales	4 511.2	4 199.8	311.4	39.1	64.8	75.5	132.0	0.0	0.0	0.0
1.1.2	Rate 1 - T-Service	358.8	476.0	(117.2)	7.3	7.5	0.0	0.0	(132.0)	0.0	0.0
1.1	Total Rate 1	4 870.0	4 675.8	194.2	46.4	72.3	75.5	132.0	(132.0)	0.0	0.0
1.2.1	Rate 6 - Sales	3 106.1	2 894.3	211.8	80.1	46.6	21.1	74.2	(10.2)	0.0	0.0
1.2.2	Rate 6 - T-Service	1 690.1	1 800.7	(110.6)	(68.2)	18.8	0.0	66.2	(127.4)	0.0	0.0
1.2	Total Rate 6	4 796.2	4 695.0	101.2	11.9	65.4	21.1	140.4	(137.6)	0.0	0.0
1.3.1	Rate 9 - Sales	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.3.2	Rate 9 - T-Service	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.3	Total Rate 9	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.	Total General Service Sales & T-Service	9 666.8	9 371.4	295.4	58.3	137.7	96.6	272.4	(269.6)	0.0	0.0
Contract Sales											
2.1	Rate 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.2	Rate 110	81.3	72.2	9.1	3.1	0.0 *	4.4	12.6	(11.0)	0.0	0.0
2.3	Rate 115	0.0	1.2	(1.2)	0.0	0.0 *	0.0	0.0	(1.2)	0.0	0.0
2.4	Rate 135	3.8	3.7	0.1	(0.7)	0.0 *	0.8	0.0	0.0	0.0	0.0
2.5	Rate 145	11.2	20.0	(8.8)	(1.2)	0.1	0.0	1.0	(8.7)	0.0	0.0
2.6	Rate 170	34.1	39.7	(5.6)	4.7	0.1	0.0	0.0	(10.4)	0.0	0.0
2.7	Rate 200	170.8	169.1	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0
2.	Total Contract Sales	301.2	305.9	(4.7)	7.6	0.2	5.2	13.6	(31.3)	0.0	0.0
Contract T-Service											
3.1	Rate 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	Rate 110	622.1	423.1	199.0	(7.0)	0.3	0.0	233.6	(27.0)	(0.9)	0.0
3.3	Rate 115	517.1	530.8	(13.7)	(0.5)	0.1	0.0	44.0	(57.3)	0.0	0.0
3.4	Rate 125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.5	Rate 135	55.5	54.3	1.2	(1.0)	0.0	0.0	2.2	0.0	0.0	0.0
3.6	Rate 145	77.3	118.9	(41.6)	(4.7)	0.4	0.0	4.4	(41.7)	0.0	0.0
3.7	Rate 170	291.6	453.2	(161.6)	(20.2)	2.0	0.0	0.0	(143.4)	0.0	0.0
3.8	Rate 300	35.0	30.0	5.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	Rate 315	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.	Total Contract T-Service	1 598.6	1 610.3	(11.7)	(28.4)	2.8	0.0	284.2	(269.4)	(0.9)	0.0
4.	Total Contract Sales & T-Service	1 899.8	1 916.2	(16.4)	(20.8)	3.0	5.2	297.8	(300.7)	(0.9)	0.0
5.	Total	11 566.6	11 287.6	279.0	37.5	140.7	101.8	570.2	(570.3)	(0.9)	0.0

* Less than 50,000 m^3.

The principal reasons for the variances contributing to the weather normalized increase of 138.3 10^6m^3 in the 2016 Budget over the 2015 Budget are as follows:

1. The volumetric increase of 138.3 10^6m^3 is due to an increase in General Service volumes of 157.7 10^6m^3, and a decrease in Contract Market volumes of 19.4 10^6m^3.

2. The volumetric increase of 157.7 10^6m^3 in General Service volumes is due to net customer growth of 96.6 10^6m^3 , net customer migration from Contract Market of 2.8 10^6m^3, and higher average use per customer in Rate 1 and Rate 6 totaling 58.3 10^6m^3.

3. The volumetric decrease of 19.4 10^6m^3 in Contract Market volumes is due to net customer migration of 2.8 10^6m^3 to General Service and lower usage of 20.8 10^6m^3, partially offset by net customer growth of 4.2 10^6m^3.

COMPARISON OF GAS SALES AND
TRANSPORTATION REVENUE BY RATE CLASS
2016 BUDGET AND 2015 BOARD APPROVED BUDGET
($ MILLIONS)

Item No.		Col. 1 2016 Budget	Col. 2 2015 Board Approved Budget	Col. 3 2016 Budget Over (Under) 2015 Budget (1-2)
General Service				
1.1.1	Rate 1 - Sales	1 612.4	1 525.5	86.9
1.1.2	Rate 1 - T-Service	70.3	88.8	(18.5)
1.1	Total Rate 1	1 682.7	1 614.3	68.4
1.2.1	Rate 6 - Sales	875.0	828.2	46.8
1.2.2	Rate 6 - T-Service	138.7	130.6	8.1
1.2	Total Rate 6	1 013.7	958.8	54.9
1.3.1	Rate 9 - Sales	0.1	0.2	(0.1)
1.3.2	Rate 9 - T-Service	0.0 *	0.0 *	0.0
1.3	Total Rate 9	0.1	0.2	(0.1)
1.	Total General Service Sales & T-Service	2 696.5	2 573.3	123.2
Contract Sales				
2.1	Rate 100	0.0	0.0	0.0
2.2	Rate 110	16.8	15.7	1.1
2.3	Rate 115	0.0	0.2	(0.2)
2.4	Rate 135	0.7	0.7	0.0
2.5	Rate 145	2.3	4.3	(2.0)
2.6	Rate 170	6.2	7.7	(1.5)
2.7	Rate 200	31.4	29.4	2.0
2.	Total Contract Sales	57.4	58.0	(0.6)
Contract T-Service				
3.1	Rate 100	0.0	0.0	0.0
3.2	Rate 110	25.4	14.5	10.9
3.3	Rate 115	7.6	8.3	(0.7)
3.4	Rate 125	9.8	9.7	0.1
3.5	Rate 135	2.2	1.5	0.7
3.6	Rate 145	2.4	2.9	(0.5)
3.7	Rate 170	3.3	2.1	1.2
3.8	Rate 300	0.2	0.2	0.0
3.9	Rate 315	0.0	0.0	0.0
3.	Total Contract T-Service	50.9	39.2	11.7
4.	Total Contract Sales & T-Service	108.3	97.2	11.1
5.	Total	2 804.8	2 670.4	134.3

* Less than $50,000.

Witnesses: S. Purba
M. Suarez